





# The B. H. Hill Library



North Carolina State University

QK9

C95



THIS BOOK IS DUE ON THE DATE  
INDICATED BELOW AND IS SUB-  
JECT TO AN OVERDUE FINE AS  
POSTED AT THE CIRCULATION  
DESK.

FEB 16 1977

MAR 2 1977

FEB 28 1979

APR 1 1983

JAN - 4 1984

OCT - 9 1985

MAR - 8 1989

OCT 19 1991

FEB 20 1983

DEC 0 1987

OCT 21 1994

OCT 26 1994







A DICTIONARY  
OF  
BOTANICAL TERMS

BY  
A. A. CROZIER



NEW YORK  
HENRY HOLT AND COMPANY  
1892

COPYRIGHT, 1892,  
BY  
HENRY HOLT & CO.

## PREFACE.

---

IT is now nearly twenty years since an English dictionary of botanical terms was published, and the development of botany during that time has brought into use many new terms and led to the abandonment of some of those which were formerly employed. The present work, though larger than any of its predecessors, is therefore wanting in certain terms which are found in the earlier botanical dictionaries. A few obsolete terms, however, which occur in standard botanical literature are retained and marked as such. The scope of this dictionary is nearly the same as that of its predecessors, except that it is broader on the side of agriculture and horticulture, as it aims to include all technical terms applied to plants both by botanists and others. Very many of the newer terms are from the German botanists, to whom we owe by far the greater part of modern structural and physiological botany. These terms, particularly, include an unfortunately large number of synonyms, which seem to be a necessary result of active research by independent workers in the same fields. With few exceptions, no definition is repeated, all approved synonyms being brought together under one term. Where a choice existed this has permitted the preferable term alone to be defined. No obsolete or wholly undesirable synonyms, however, accompany the definitions, and such of these as occur in alphabetical order have usually been admitted only to refer

## PREFACE.

the reader to the proper term. The cross-references freely given to terms of similar and opposite meanings will be found useful in broadening the scope of the definitions.

I desire here to express my gratitude to various botanical friends for their contributions to this work, particularly to Dr. W. J. Beal, of the Michigan Agricultural College, who has revised the entire manuscript and improved many of the definitions; to Professor V. M. Spalding, of the University of Michigan, who has revised and corrected the terms relating to fungi; to Mr. F. C. Newcombe for aid upon the terms applied in karyokinesis; and to Professor L. H. Bailey, of Cornell University, for advance proof-sheets of his glossary of horticultural terms.

The marking of the pronunciation was begun by Mr. B. Pickman Mann, of Washington, D. C., and completed by Mr. F. P. Jordan, of the University of Michigan. In their work Webster's dictionary was mainly followed as authority.

ANN ARBOR, MICH., January, 1892.

## SIGNS AND ABBREVIATIONS.

---

- ①....annual.  
 ②....biennial.  
 ♄....perennial.  
 ♂....staminate.  
 ♀....pistillate.  
 ♀....perfect.  
 ∞....numerous; more than  
     twenty when applied to  
     stamens.  
 ?.....doubt.  
 !.....certainty. Indicates that  
     the author has seen the  
     specimen in question.  
 n. sp. new species. Used only  
     with the first printed  
     description.  
 Eu...the Greek word "well,"  
     sometimes written after a  
     species to indicate that it  
     is certainly a well-defined  
     species, not a variety.

### MEASUREMENT.

- °.....foot.  
 '.....inch.  
 ".....line ( $\frac{1}{12}$  inch).  
 c.m...centimeter.  
 c.c...cubic centimeter.  
 m.m. millimeter.  
 $\mu$ ....*mu* (the Greek letter *m*),  
     micromillimeter,  $\frac{1}{1000}$  of  
     a millimeter, the unit  
     of microscopic measure-  
     ment. It is about .000039  
     of an inch.  
 ×....used to express magnifica-  
     tion. Thus,  $\times 150$  indi-  
     cates a magnification of  
     150 diameters. The im-  
     proper fraction  $1\frac{5}{1}$  indi-  
     cates the same, but this  
     form is little used.



# A DICTIONARY

## OF

# BOTANICAL TERMS.

---

**A**, prefixed to words of Greek origin often signifies absence, as *apēt'áloüs*, without petals. Before a vowel it is changed to **AN**, as *ánän'theroüs*, without anthers.

**ĀBĀX'ĪAL**, out of the axis. See **EXCENTRIC**.

**ĀBBRĒ'VIĀTED**, shorter than an adjoining organ, or one with which it is compared.

**ĀBĒR'RANT**, differing widely from the usual form or structure; as: the *Fumariaceæ* have been regarded as an *aberrant* group of *Papaveraceæ*.

**ĀBĪŌGĒN'ESĪS**, see **SPONTANEOUS GENERATION**.

**ĀBJĒC'TION**, throwing off with force, as spores or seeds.

**ĀBJOINT'**, to separate at a joint.

**ĀBJŪN'CTION**, the separation of one part from another; delimitation. Compare **ABSTRICTION**.

**ĀBNÔR'MAL**, differing from the usual structure or condition.

**ĀBÔRĪG'ĪNAL**, see **INDIGENOUS**.

**ĀBÔR'TION**, the non-formation or imperfect formation of an organ, so that it does not per-

form its usual function. Compare **SUPPRESSION**, **DEGENERATION**, **ATROPHY**.

**ĀBÔR'TĪVE**, imperfect, or wanting. See **OBSOLETE**.

**ĀBRŪPT'**, terminating suddenly, as a leaf which ends without a tapering extremity, a compound leaf without a terminal leaflet, or a stem which is sharply bent.

**ĀBRŪPT'LŸ ĀCŪ'MĪNĀTE**, having a broad extremity from which a point arises.

**ĀBRŪPT'LŸ PĪN'NĀTE**, pinnate without a terminal leaflet, and usually with an even number of leaflets. There may be a terminal point or tendril; even pinnate; equally pinnate. Compare **IMPĀRIPINNATE**.

**ĀBSÇĪS'ION**, cutting off sharply, as the separation of the frustules of diatoms. Compare **ABSTRICTION**.

**ĀB'SÇĪSS LĀY'ER**, a layer of cells formed by renewed cell-division in the base of the leaf-stalk in autumn, the formation of which permits the fall of the leaf.

**ĀBSŌRP'TION**, the method by which fluids enter the plant. See OSMOSE and IMBIBITION.

**ĀBSTRĪC'TION**, the separation of one part from another by constriction and the formation of a septum. Applied especially to the separation of spores from their hyphæ. Compare ABSCISSIO and ABJUNCTION.

**ĀCĀLYĈINE**, without calyx; acalycinous.

**ĀCĀLYĈINOŪS**, see ACALYCINE.

**ĀCĀN'THĀ** (pl. *Ācān'thāē*), a thorn, spine, or prickle.

**ĀCĀNTHĀĈEOŪS**, having thorns, spines, or prickles.

**ĀCĀNTHŌCĀR'POŪS**, having the fruit furnished with spines or prickles.

**ĀCĀNTHŌCĀLĀDOŪS**, having spiny branches.

**ĀCĀNTHŌPH'ŌROŪS**, bearing prickles, spines, or thorns.

**ĀCĀNTHŌP'ŌDOŪS**, having the petiole or pedicel furnished with spines or prickles.

**ĀCĀR'POŪS**, not producing fruit.

**ĀCĀULĒS'CEŇCE**, an abnormal suppression of the stem.

**ĀCĀULĒS'CENT**, having only a very short aerial leaf-bearing stem, apparently none, as in the dandelion; acauline; acaulose; acaulous.

**ĀCĀU'LĪNE**, see ACAULESCENT.

**ĀCĀU'LĪS**, see ACAULESCENT.

**ĀCĀU'LŌSE**, see ACAULESCENT.

**ĀCĀU'LOŪS**, see ACAULESCENT.

**ĀĈES'SŌRŸ**, additional to the usual number, or accompanying something else; supernumerary. Said of the additional buds when more than one occur in an axil; applied to the border of the apothecium in lichens when of a different

substance or color from the disk.

**ĀĈES'SŌRŸ BUDS**, also called secondary buds and supernumerary buds; the additional buds when more than one occur in or near the axil, as in the butternut.

**ĀĈES'SŌRŸ CELL**, the sister-cell of a guard-cell; subsidiary cell.

**ĀĈES'SŌRŸ FRUIT**, one in which some additional part or parts is associated with the matured ovary, as in the wintergreen, *Gaultheria procumbens*; anthocarpous fruit. The term is not applied to fruits with an adherent calyx-tube, as the apple and currant. Compare AGGREGATE FRUIT and COLLECTIVE FRUIT.

**ĀĈES'SŌRŸ GŌNĪD'ĪĀ**, gonidial formations in some species of Mucorini in addition to the typical kind.

**ĀĈĪDĒN'TĀL**, see ADVENTITIOUS.

**ĀCĈŌMMODĀ'TION**, see ADAPTATION.

**ĀCCRĒS'CENT**, increasing in size after flowering;—applied to parts accessory to the fruit, as the calyx of *Physalis*.

**ĀCCRĒTE'**, grown together in any manner.

**ĀCCRĒ'TION**, the growing of one thing to another; growth by addition of particles to the outside.

**ĀCĈŪMBENT**, lying upon or against another body, as the edge of the cotyledons against the caulicle in some Crucifera. Compare INCUMBENT.

**ĀCĈPH'ĀLOŪS**, headless; said of an ovary when the style is attached to some other part than the summit.

**ĀĈERŌSE'**, narrow, stiff, and

pointed, like the leaves of the fir. Intermediate in form between Acicular and Subulate.

**ĂÇĖR'VĀTE**, growing in heaps or clusters; coacervate.

**ĂÇĖR'VULŪS** (pl. *ĂçĖr'vūlī*), a small heap, as of spores.

**ĂCETĀBŪ'LĪFŌRM**, deep saucer-shaped, with a broad concave bottom and nearly upright sides. Compare **COTYLIFORM**.

**ĂCETĀ'RĪOŪS**, used for salads.

**ĂÇ'ETŌSE**, sour; acid.

**ĂCHĖ'NĪŪM**, see **ACHENIUM**.

**ĂCHĖ'NŌCĀRP**, any simple dry indehiscent fruit. (Masters.)

**ĂCHEĪ'LĀRŸ**, destitute of a labelum, as some orchids.

**ĂCHĖNE'**, see **ACHENIUM**.

**ĂCHĖ'NĪŪM** (pl. *ĂchĖ'nīā*), a small, dry, indehiscent, one-seeded seed-like fruit or carpel in which the covering does not adhere to the seed, as in the sunflower or buttercup; achæ-nium; achene; akene. Compare **CARYOPSIS**, **UTRICLE**, **CYPSELA**.

**ĂCHĖNŌ'DĪŪM**, see **CREMOCARP**.

**ĂCHLĀMŸ'DEOŪS**, destitute of calyx and corolla.

**ĂCHROMĀT'IC**, not readily colored by the usual staining agents.

**ĂCHRŌ'MĀTĪN**, the basic substance of the nucleus, less highly colored by staining agents than the rest.

**ĂÇIC'ŪLĀ** (pl. *Ăçic'ulāē*), a needle-shaped spine, prickle, or other body.

**ĂÇIC'ŪLAR**, slender needle- or bristle-shaped, as the leaves of most pines; aciculate; aciculi-form; aciform. Compare **ACEROSE**.

**ĂÇIC'ŪLĀTE**, see **ACICULAR**.

**ĂÇIC'ŪLĀTED**, marked by fine

grooves, as if scratched with a needle. Finer than striate, and not necessarily parallel.

**ĂÇIC'ŪLĪFŌRM**, see **ACICULAR**.

**ĂÇ'ĪĖS**, an edge.

**ĂÇ'ĪFŌRM**, see **ACICULAR**.

**ĂÇĪNĀ'ÇEOŪS**, full of kernels. (Rare.)

**ĂÇĪNĀÇ'ĪFŌRM**, scymitar-shaped,—having one edge thin and convex, and the other thick and straight or concave, like many bean-pods.

**ĂÇ'ĪNE**, one of the succulent carpels of a fruit like the raspberry; acinus. (Originally *Acinus* meant a bunch of grapes or similar fruit, as the currant, and later the term was applied to one of the berries of such a bunch and to the seeds of the grape.)

**ĂÇĪNŌSE'**, consisting of granular bodies somewhat resembling grape-seed. More rarely, resembling a grape-berry or bunch of grapes.

**ĂÇ'ĪNŪS** (pl. *Ăç'īnī*), see **ACINE**.

**ĂCŌTŸLĖD'ŌNOŪS**, destitute of cotyledons, as *Cuscuta*.

**ĂCRĀMPHĪB'RŸOŪS**, said of plants whose growth is not confined to the apex, i.e., which produce lateral as well as terminal buds. (Rare.) Compare **ACROGENOUS**.

**ĂCRŌB'RŸOŪS**, see **ACROGENOUS**.

**ĂCRŌCĀR'POŪS**, having terminal fructification. Used chiefly in mosses. Compare **CLADOCARPOUS**.

**ĂCRŌG'ENOŪS**, growing chiefly at the apex, as the stem of ferns; produced at the apex of a filament, as the spores of some fungi.

**ĂCRŌG'ŸNOŪS**, having the stem terminated by archegonia or

other female organs. Compare ANACROGYNOUS.

**ĀCRŌP'ĒTĀL**, produced in succession toward the apex; in the direction of the summit; basifugal; centripetal (when applied to the order of inflorescence only). Compare BASIP-ETAL.

**ĀCRŌSCŌP'ĪC**, facing the apex. Compare BASISCOPIC.

**ĀC'RŌSPĪRE**, an old name for the plumule of a grain in germination.

**ĀC'RŌSPŌRE**, a spore borne at the summit of a filament.

**ĀCTĪNŌMŌR'PHĪC**, regular and polysymmetrical, as the flowers of radish, i.e., capable of bisection in two or more planes into similar halves. Compare ZYGOMORPHIC.

**ĀCTĪNŌMŌR'PHŌŪS**, see ACTINOMORPHIC.

**ĀC'TĪVE**, in a growing condition; opposed to Dormant.

**ĀCŪ'LEĀTE**, having prickles; prickles-pointed; aculeated.

**ĀCŪ'LEŌLĀTE**, having small or few prickles.

**ĀCŪ'LEŪS** (pl. Ācū lei), see PRICKLE.

**ĀCŪ'MĪNĀTE**, ending in a prolonged tapering point.

**ĀCŪ'MĪNŌSE**, having a sharp or tapering point; somewhat acuminate. (Rare.)

**ĀCŪMĪN'ŪLĀTE**, having a small acuminate point.

**ĀCŪTE'**, ending in a distinct angle, but not prolonged.

**ĀČŸC'LĪC**, having all the organs of a flower in a continuous spiral. Compare HEMICYCLIC and CYCLIC.

**ĀDĀPTĀ'TION**, the modification of a plant to better fit it for surrounding conditions, or of

an organ for a particular function; accommodation. Compare METAMORPHOSIS.

**ĀDĒL'PHĪĀ**, (pl. Ādēl'phīā), a collection of stamens united by their filaments. Compare PHALANX.

**ĀDĒL'PHŌŪS**, having the stamens united by their filaments in an adelphia or bundle.

**ĀDĒN'ĪFŌRM**, gland-shaped; adenoid.

**ĀDĒN'ŌPHŌRE**, a stalk supporting a gland.

**ĀDĒNŌPH'ŌROŪS**, gland-bearing.

**ĀDĒNŌPHŸL'LOŪS**, having on the leaves glands, or gland-like spots or tubercles.

**ĀDĒNŌP'ŌDOŪS**, having glands or gland-like tubercles on the petioles.

**ĀDĒNŌSE'**, gland-like, or bearing glands; adenoid; adenous.

**ĀD'ENOŪS**, see ADENOSE.

**ĀD'ESMŸ**, the separation of parts usually joined. Compare CHORISIS, DIALYSIS, FISSION.

**ĀDGLŪ'TĪNĀTE**, see AGGLUTINATE.

**ĀDHĒ'RENT**, attached or growing to an organ or body of a different nature, as the calyx to the ovary. The parts may or may not have grown together from the first. Compare COHERENT and ADNATE.

**ĀDHĒ'SION**, the sticking or growing together of organs of a different nature, as a leaf to the stem. It implies a union of parts which in most other plants or in a younger state of the same plant are separate.

**ĀDNĀS'CENT**, growing to or upon something else; as, "moss is an *adnascent* plant."

**ĀD'NĀTE**, said of parts of a dif-

ferent nature which are grown together from the first, or over their whole surface or length. (Compare CONNATE.) Applied to an anther, it indicates that it is attached throughout its length to the upper or lower surface of the filament. Compare INNATE. See ADHERENT.

**ĀDNĀ'TION**, the same as adhesion, but implying an earlier or more complete union.

**ĀDRĒSS'ED**, see APPRESSED.

**ĀDSCĒN'DĒNT**, see ASCENDING.

**ĀDSŪRG'ENT**, see ASCENDING.

**ĀDŪN'COŪS**, crooked, twisted, or hooked. (Rare.)

**ĀDVENTĪTIŪS**, out of the usual place, as buds on a leaf or at a distance from a node; growing spontaneously out of its native locality, but not fully established; adventive.

**ĀDVĒN'TIVE**, see ADVENTITIOUS.

**ĀD'VĒRSE**, (1) opposite (rare); (2) directed toward or facing the main axis or other object. Compare AVERSE.

**ĀDVĒRSĪFŌ'LIĀTE**, see ADVERSIFOLIOUS.

**ĀDVĒRSĪFŌ'LIŌŪS**, having opposite leaves; adversifoliate.

**ĀĖID'ĪŌSPŌRE**, a spore produced in an æcidium.

**ĀĖID'ĪŪM** (pl. *ĀĖid'ia*), the cup-shaped spore-case with its contents in certain Uredineae, in which the spores are produced serially from below; æcidium fruit.

**ĀERĒN'CHŪMĀ**, tissue homologous with cork, with thin cell-walls and large intercellular spaces, found in the stems of some marsh-plants, as *Lythrum salicaria*. It is supposed by Schenk, the author of the term, to serve for aeration, but by

others it is regarded as floating tissue.

**ĀĖ'RĪĀL**, growing in the air, not attached to the soil, as a parasite or epiphyte upon the top of some other plant.

**ĀĖ'RĪĀL ROOTS**, those appearing above ground, whether they afterwards enter the ground or not, as the clinging roots of the ivy and the brace-roots of Indian corn.

**ĀERŌ'BĪĀ** (sing. *Āerō'bium*), organisms which thrive only in the presence of air or free oxygen. Applied in bacteria. Compare ANAEROBIA.

**ĀERĪŌBIŌT'IC**, thriving only in the presence of air.

**Ā'ERŌCŪST**, an old name for air-bladder.

**Ā'ERŌPHŪTE**, see AIR-PLANT.

**Ā'ERŌTRŌP'IC**, seeking the air, as certain roots.

**ĀERŪ'ĠINŌSE**, clear light bluish green; verdigris-green.

**ĀERŪ'ĠINOŪS**, see ĀERUGINOSE.

**ĀĖTĪVĀL**, see ESTIVAL.

**ĀĖTĪVĀ'TION**, the arrangement of the floral organs in the bud; præfloration.

**ĀTHĀ'LIŪM**, a compound sporiferous body in Myxomycetes, formed from a large combination of plasmodia.

**ĀFFĪN'ĪTŪ**, true or near relationship. Compare ANALOGY and HOMOLOGY.

**ĀĠĀM'IC**, destitute of sex. Formerly applied to all cryptogams.

**ĀĠĀMŌĠĒN'ESĪS**, asexual reproduction of any kind. See PARTHENOGENESIS and APOGAMY.

**ĀĠĀMŌSPŌRE**, a spore formed without fertilization; — a go-

nidium or asexually produced spore of any kind. (Rare.)

**ĀĠ'ĀMOŪS**, see AGAMIC.

**ĀĠĠLŌM'ERĀTE**, see AGGLOMERATED.

**ĀĠĠLŌM'ERĀTED**, clustered or crowded together but not cohering, as the staminate flowers of pines.

**ĀĠĠLŪ'TĪNĀTED**, glued together. Compare ACCRETE.

**ĀĠ'GREGĀTĒD**, collected together but not cohering. About the same as Agglomerated.

**ĀĠ'GREGĀTE FLOWERS**, those with several in the same head, as in clover. The term excludes Compositæ.

**ĀĠ'GREGĀTE FRUIT**, one in which distinct carpels of a single flower are crowded on the receptacle into one mass, as in the raspberry and magnolia; syncarp. Compare COLLECTIVE FRUIT.

**ĀGGREGĀ'TION**, the condensation of the protoplasm of a living cell, or of some of the contained proteids under stimulation: first observed in the tentacle cells of *Drosera* and subsequently produced in the cells of other plants by means of various basic substances

**ĀĠRĪCŪLT'ŪRAL BOTANY**, that branch of economic botany which treats of weeds and cultivated plants. It includes the systematic study of such plants and their methods of reproduction, the laws of improvement and degeneration in plants, etc., also vegetable pathology in its application to cultivated plants.

**ĀGRŌSTŌĠ'RĀPHŸ**, see AGROSTOLOGY.

**ĀGRŌSTŌL'ŌĠŸ**, the part of botany relating to grasses.

**ĀĠ'YNOŪS**, without pistils.

**ĀĠ'GRET**, any feathery crown or tuft attached to the seed, as the coma of the milkweed or pappus of the thistle; aigrette; egret.

**ĀIGRETTE'**, see AIGRET.

**AIR-BLADDER**, an organ filled with air for the purpose of floating the plant in water, as in the sea-weed *Fucus*; air-sac; air-cell.

**AIR-CHAMBER**, see STOMATIC CHAMBER and AIR-PASSAGE.

**AIR-PASSAGE**, an extended opening between the cells containing air, as in the stems of many water-plants; lacuna; air-chamber.

**AIR-PLANT**, a plant growing in the air detached from the soil, as certain orchids; aërophyte. Generally applied only to epiphytic flowering plants.

**AIR-PORE**, see STOMA.

**ĀKENE'** see ACHENIUM.

**ĀLĀ** (pl. *Ālæ*), see WING.

**ĀLĀBĀS'TRŪM**, an old term for flower-bud.

**Ā'LAR**, (1) borne in the forks of a stem; (2) relating to or having wings. See ALATE.

**Ā'LĀTE**, see WINGED.

**Ā'LĀTE-PĪN'NĀTE**, pinnate with a winged petiole.

**ĀLBĒS'CENT**, whitish; candicant.

**ĀL'BĪCĀNT**, see ALBESCENT.

**ĀL'BĪNĪSM**, see CHLOROSIS.

**ĀLBĪ'NO**, a plant or variety nearly destitute of chlorophyll, or of which the fruit is abnormally white or colorless.

**ĀLBŪ'MEN**, nutritive material in many seeds surrounding or

adjoining the embryo, endosperm or perisperm.

**ĀLBŪ'MEN CRŪSTĀLS**, see CRYSTALLOIDS.

**ĀLBŪ'MINOID**, an organic substance containing nitrogen in its composition, as protoplasm; proteid.

**ĀLBŪ'MINOŪS**, furnished with albumen.

**ĀLBŪR'NOŪS**, having, consisting of, or pertaining to, albumen.

**ĀLBŪR'NŪM**, sap-wood; a somewhat distinct, usually lighter colored, outer zone of wood in many exogenous trees and shrubs.

**ĀLĒCTŌ'RĪŌID**, filiform, like the thallus of the genus *Alectoria* in lichens.

**ĀLEŪ'RŌNE**, proteine-grains which replace starch in the cotyledons or albumen of certain oily seeds.

**ĀLGŌL'ŌGŸ**, the part of botany relating to algæ.

**ĀLĪ'EROŪS**, having wings.

**ĀL'ĪFŌRM**, wing-shaped.

**ĀLĪG'EROŪS**, see ALIFEROUS.

**ĀLLĀN'TŌID**, sausage-shaped; botuliform; narrowly oblong; cylindrical with somewhat hemispherical terminations.

**ĀLLĀSSŌTŌN'IC MOVEMENTS**, a term applied by Vries to the movements of mature organs, as the sleep of plants; movements of variation. Compare AUXOTONIC MOVEMENTS.

**ĀLLĪĀ'CEOŪS**, having the odor or other qualities of the genus *Allium*, which includes the onion and garlic.

**ĀLLĪ'ANĖE**, see COHORT.

**ĀLLŌG'ĀMOŪS**, habitually cross-fertilized.

**ĀLLŌG'ĀMŸ**, cross-fertilization. Compare AUTOGAMY.

**ĀLLŌT'RŌPIŠM**, appearance under an unusual form.

**ĀLPĒS'TRĪNE**, growing on high mountains below the timber-line, or on the tops of inferior mountains; mountainous.

**ĀLPĪTŌMŌR'PHOŪS**, resembling barley meal. said of certain fungi (Rare.)

**ĀL PĪNE**, growing on mountains above the timber-line.

**ĀLTĒR'NĀTE**, applied to leaves, indicates one at a node; applied to parts of the flower, indicates that the members of one whorl are placed opposite the intervals between the members of the next whorl.

**ĀLTĒR'NĀTELŸ - PĪN' NĀTE**, pinnate with the pinnæ or leaflets alternating on opposite sides of the rachis.

**ĀLTĒRNĀ'TION OF GENERATIONS**, the growth of reproductive bodies into structures differing from that on which they were produced, to return after one or more generations to the original stage or form. Thus, the spore of ferns produces a small prothallus, and upon this sexual bodies are borne which after fertilization reproduce the original fern-plant. See METAGENESIS.

**ĀLŪTĀ'CEOŪS**, of a pale brown color; resembling soft tanned skin in color or texture. (Rare.)

**ĀL'VEŌLĀTE**, deeply pitted so as to resemble honey-comb, like the receptacle of many Compositæ; faveolate; favose.

**ĀMBĪG'ENŪS**, having the outer surface of the perianth resembling a calyx and the inner surface a corolla.

**ĀMBĪG'ŪOŪS**, indistinct or doubtful, so that it cannot well be referred to any definite condition or place in a system of classification, as a bract which has nearly the appearance of an ordinary leaf, or a species which is doubtfully of higher rank than a variety, or one which it is difficult to determine into which of two genera it should be placed.

**ĀMBĪP'ĀROŪS**, producing two kinds, as a bud which produces directly both flowers and leaves.

**ĀM'ENT**, a slender spike of naked and usually separated flowers with imbricated scales or bracts; amentum: julus; catkin. Staminate aments are usually deciduous.

**ĀMĒN'TĀ**, pl. see **AMENTUM**.

**ĀMENTĀ'CEOŪS**, resembling, consisting of, pertaining to, or bearing aments; as an *amentaceous* inflorescence or plant.

**ĀMENT'IFŌRM**, amentaceous; juliform.

**ĀMĒN'TŪM** (pl. *Āmĕn'tā*), see **AMENT**.

**ĀM'IDŌPLĀST**, see **LEUCOPLAST**.

**ĀMMŌPH'ĪLOŪS**, growing in sandy places.

**ĀM'NĪŌS**, the contents of the embryo-sac before the formation of the embryo. Seldom used.

**ĀMCE'BOĪD**, assuming various shapes, like the *Amœba*.

**ĀMŌR'PHOŪS**, without definite form, structure, or position.

**ĀMPHĀN'THĪŪM**, see **CLINANTHIUM**.

**ĀMPHIASTER**, a term for the combined nuclear spindle and cytasters in karyokinesis when the latter are present, which is rare in plants. The term is

also applied to the combined cytasters only.

**ĀMPHĪB'ĪOŪS**, growing readily either in water or upon dry land.

**ĀMPHĪB'RŪOŪS**, growing by additions over the whole surface.

**ĀMPHĪCĀR'PĪC**, producing two kinds of fruit, either as regards form or period of ripening; amphicarpous. Compare **HETEROCARPOUS**.

**ĀMPHĪCĀR'POŪS**, see **AMPHICARPIC**.

**ĀMPHĪG'ĀMOŪS**, see **AGAMIC**.

**ĀMPHĪGĀS'TER**, used by Bennett and Murray for *Amphigastrium*.

**ĀMPHĪGĀS'TRIĀ** (sing. *Amphigastrium*), peculiar scale-like leaves accompanying those of ordinary form as a third row upon the under side of the stem in certain *Hepaticæ*.

**ĀMPHĪG'ĒNOŪS**, growing on either surface of a leaf. Said chiefly of certain parasitic fungi.

**ĀMPHĪSĀR'CĀ**, any indehiscent fruit, hard and dry externally and pulpy within, as a gourd. (Rare.)

**ĀMPHĪSPĒR'MOŪS**, closely investing the seed so as to have the same form, as the ovary in *Gramineæ*.

**ĀMPHĪT'RŌPAL**, see **AMPHITROPOUS**.

**ĀMPHĪT'ROPOŪS**, having the funiculus attached to the ovule or seed for half the distance between the chalaza and micropyle; semianatropous; half-anatropous; half-inverted; hemitropous; heterotropous; transverse; amphitropal. Applied to the embryo it means curved so that both ends are brought close together.

**ĀM'PHŌRĀ**, the lower division of a pyxis.

**ĀMPLEĀC'TĀNT**, embracing or clasping, as tendrils, or the sheath of grasses.

**ĀMPLEX'ICAUL**, partially surrounding or clasping the stem, as the base of many leaves. Compare **SHEATHING** and **PERFOLIATE**.

**ĀM'PLIĀTED**, enlarged, or moderately dilated.

**ĀMPŪL'LĀ**, see **BLADDER**.

**ĀMPŪLLĀ'CEOUS**, inflated, and swelling out toward the base like a bladder or short flask. Compare **LAGENIFORM**.

**ĀMYG'DĀLINE**, pertaining to or resembling the almond.

**ĀMYLĀ'CEOUS**, pertaining to, composed of, or resembling starch.

**ĀMYLŌGĒN'ESIS**, starch-formation.

**ĀMYLŌGĒN'IC**, starch-forming. Applied to chlorophyll-granules and similar bodies which originate starch.

**ĀM'YLOID**, a colloid substance having nearly the properties of boiled starch which is found in many sea-weeds and in the seeds of the bean, the almond, etc.

**ĀMYLŌLYT'IC**, pertaining to the transformation of starch into other substances, as *amylolytic* diastase.

**ĀM'YLŪM**, starch.

**AMYLUM BODIES**, see **PYRENIDS**.

**AMYLUM STAR**, see **STARCH-STAR**.

**ĀN'ĀBĪX** (pl. *Ānāb'icēs*), a stem like that of many ferns, etc., which continually dies below and grows above. (Rare.)

**ĀNĀBŌL'IC**, applied by Geddes

to the series of ascending metabolic changes in protoplasm by which food is assimilated. Compare **KATABOLIC**. See **ASSIMILATION**.

**ĀNĀCĀN'THOUS**, without spines.

**ĀNĀCRŌG'YNOUS**, applied in *Jungermanuicæ* by Leitgeb to forms in which the archegonia do not arise upon or near the apex of the shoot, which therefore usually continues to grow after their formation. Compare **ACROGYNOUS**.

**ĀNĀĒRŌ'BIĀ** (sing. *Anaërobium*), organisms unable to live or thrive in the presence of free oxygen. Applied to certain bacteria. Compare **AEROBIA**.

**ĀNĀĒRŌB'IC**, see **ANAEROBIOTIC**.

**ĀNĀĒRŌBĪŌT'IC**, being unable to live in contact with air or free oxygen, as some bacteria, or capable of living in an atmosphere destitute of oxygen; anaërobious; anaërobic.

**ĀNĀĒRŌB'IOUS**, see **ANAEROBIOTIC**.

**ĀNĀĒ'RŌPHYTE**, a plant which does not need a direct supply of air.

**ĀN'ĀLŌGUE**, an organ or body resembling or having the function of another with which it is compared.

**ĀNĀL'ŌGŸ**, resemblance in certain respects, as in general appearance or function. Applied to organs or to classes of plants. Compare **AFFINITY**, **HOMOLOGY**, and **MORPHOLOGY**.

**ĀNĀL'YSIS**, the systematic examination of a plant preliminary to determining its position in the classification. Compare **DETERMINATION**.

**ĀNĀMŌRPH'ISM**, see **ANAMORPHOSIS**.

**ĀNĀMŌR'PHŌSĪS**, (1) a gradual change of form (generally ascending) traced in a group of plants the members of which have succeeded each other in point of geological time; (2) a similar gradation of form between the members of a group now existing; (3) a remarkable or profound alteration of form resulting immediately from a change in the conditions of growth.

**ĀNĀN'DROŪS**, without stamens.

**ĀNĀN'THĒROŪS**, without anthers.

**ĀNĀN'THERŪM** (obs.), see **STAMINODIUM**.

**ĀNĀN'THOŪS**, without flowers.

**ĀN'ĀPHASES**, Strasburger's term for the phenomena of karyokinesis following the metaphases (which see) up to the formation of the resting daughter nuclei.

**ĀN'ĀPLĀST**, see **LEUCOPLAST**.

**ĀNĀS'TŌMŌSE**, to communicate or unite with one another, as the veins of leaves.

**ĀNĀSTŌMŌ'SIS** (pl. *Ānāstomōsēs*), the inosculation or junction of similar parts, often forming a network, as in the veins of leaves.

**ĀNĀT'ŌMŸ**, **VEGETABLE**, see **VEGETABLE ANATOMY**.

**ĀNĀT'RŌPOŪS**, applied to an ovule or seed which grows so that the funiculus coheres to and forms a raphe along its whole length, bringing the hilum near the foramen and the chalaza at the apparent apex, as in *Liliaceae*; anatropal.

**ĀNĀIP'ĪTAL**, flattened and two-edged, as the stem of *Panicum anceps*; ancipitous.

**ĀNĀIP'ITOŪS**, see **ANCIPITAL**.

**ĀNDROCLIN'IUM**, see **CLINANDRIUM**.

**ĀNDRŌDĪĒ'ĊIOŪS**, having perfect flowers on one set of plants and staminate flowers on another set, but no individuals with pistillate flowers. Compare **ANDROMŌŒCIOUS** and **GYNODĪŒCIOUS**. See **POLYGAMOUS**.

**ĀNDRŌĒ'ĊIŪM**, the stamens of a flower taken together.

**ĀNDRŌGŌNĪD'IŪM**, see **ANDROSPORE**.

**ĀNDRŌG'YNAL**, see **ANDROGYNOUS**.

**ĀNDRŌG'YNIŠM**, the change from a diœcious to a monœcious condition.

**ĀNDRŌG'YNOŪS**, monœcious with the staminate and pistillate flowers in the same inflorescence. Said mainly of the heads of certain *Compositæ*. Compare **POLYGAMOUS**.

**ĀNDRŌMŌNŒ'CIOŪS**, having staminate and perfect flowers on the same plant, but no pistillate flowers. Compare **ANDRODĪŒCIOUS**. See **POLYGAMOUS**.

**ĀNDRŌPĒT'ĀLOŪS**, said of flowers which have become double by the conversion of petals into stamens. (Rare.)

**ĀN'DRŌPHŌRE**, a column of united filaments, supporting the anthers; staminal column.

**ĀNDRŌPH'ŌRŪM**, see **ANDROPHORE**.

**ĀNDRŌSPŌRĀN'GIŪM**, a sporangium containing androspores.

**ĀN'DRŌSPŌRE**, a kind of asexually produced zoogonidium or swarm-pore in *Edogoniæ* which develops into small male plants called "dwarf males;" androgonidium.

**ĀN'DROŪS**, pertaining to stamens; male.

**ĀNEMŌPH'ĪLOŪS**, having the pollen or seeds conveyed by the wind.

**ĀNFRĀCT'ŪŌSE**, bent hither and thither, as the stamens of the melon.

**ĀNGĪŌCĀR'POŪS**, having the fruit invested with a calyx, receptacle, or other covering; having spores enclosed by a receptacle of some kind; angiosporous. Especially, having a closed instead of open apothecium in lichens. Compare **GYMNOCARPOUS**.

**ĀNGĪŌSPĒRM'ŌŪS**, having seeds produced in a closed ovary.

**ĀNGĪŌS'PŌROŪS**, having spores or asci produced in a closed receptacle, angiocarpous.

**ĀN'GLĒ OF DĒVĪĀ'TION**, the angle which a leaf, branch, or root makes with the axis on which it is borne—on the upper side in branches and leaves, on the lower side in root.

**ĀN'GLE OF DĪVĒR'GEŅCE**, the angle measured by the part of a cycle between succeeding organs in the same spiral or whorl; divergence.

**ĀN'GŪLAR**, having angles or ridges prismatic. In Pomology, having one side developed more than the other, as in the Newtown Pippin apple. Compare **OBLIQUE**.

**ĀN'GŪLAR DĪVĒR'GEŅCE**, see **ANGLE OF DIVERGENCE**.

**ĀN'GŪLĀTE**, see **ANGULAR**.

**ĀNGŪLŌDĒN'TĀTE**, having angular teeth.

**ĀNGŪS'TĀTE**, narrow.

**ĀNGŪS'TĪFŌ'LĪĀTE**, having narrow leaves; angustifolious.

**ĀNGŪSTIFŌ'LĪŌŪS**, see **ANGUSTIFOLIATE**.

**ĀNGŪSTĪSĒP'TĀTE**, having a

narrow septum or partition, as the pod of shepherd's-purse.

**ĀNĪSŌG'ŸNOŪS**, having fewer carpels than sepals.

**ĀNĪSŌM'EROŪS**, not having the same number of floral organs in the different whorls. Compare **ISOMEROUS** and **UNSYMMETRICAL**.

**ĀNĪSŌPĒT'ĀLOŪS**, having petals of unequal size. (Rare.)

**ĀNĪSŌPHŸL'LOŪS**, unequal-leaved, as when the two leaves of a pair are of unequal size.

**ĀNĪSŌP'TEROŪS**, having wings of unequal size.

**ĀNĪSŌSTĀM'ĒNOŪS**, see **ANISOSTEMONOUS**.

**ĀNĪSŌSTĒM'ŌNOŪS**, having the stamens differing in number from the petals (or parts of the perianth when the sepals are petaloid). Compare **ISOSTEMONOUS**.

**ĀNĪSŌTRŌP'IC**, having the different parts or organs endowed with different kinds of irritability, or in different degrees, as stems which seek the light and roots which shun it.

**ĀNNŌT'ĪNŪS**, the ring upon a stem which marks the close of a season's growth. It consists of the scars left by the fallen scales of the bud from which the next year's growth proceeded.

**ĀNNŌT'ĪNOŪS**, having distinct yearly growths.

**ĀN'NŪAL**, a plant which usually lives but one year or season.

**ANNUAL RING**, the ring or cylinder of wood produced by exogenous plants during the year. In some cases the annual ring consists of more than one ring of growth, hence the term "growth-ring" is now often used.

**ĀN'NŪLAR**, in the form of a circle or zone.

**ANNULAR DUCTS**, see **VESSELS**.

**ANNULAR VĚSSELS**, vessels marked with thickenings in the form of a ring.

**ĀN'NŪLĀTE**, marked with rings or circular transverse lines; annulated.

**ĀN'NŪLĀTED**, see **ANNULATE**.

**ĀNNŪLĀTION**, a ring or belt.

**ĀN'NŪLŌSE**, furnished with or composed of rings.

**ĀN'NŪLŪS** (pl. **Ān'nūlī**), any body in the form of a ring; the ring or band of thick-walled cells in the sporangium of most ferns which by contraction bursts the sporangium and liberates the spores; the ring of cells upon the inner side of the base of the peristome at the orifice of the theca in many species of mosses which is thrown off to detach the operculum; the ring on the stem of mushrooms; the abortive foliar sheath at the base of the spike in *Equisetum*.

**ĀN'ŌDĀL**, see **ANODIC**.

**ĀNŌD'IC**, applied to the edge of a leaf which a leaf-spiral leaves in its upward course. In a right-handed spiral it would be the right edge of the leaf, and *vice versa*. Compare **CATHODIC**.

**ĀNŌM'ĀLOŪS**, unusual in appearance; contrary to rule; abnormal; irregular.

**ĀNŌM'ĀLŸ**, any deviation from the essential or usual character.

**ĀN'SŪLĀTE**, coiled at the apex and the whole coil bent over so as to make a loop projecting above the coil, as the growing extremity of the vine of the musk-melon.

**ĀN'TECHĀMBER**, the upper

(outer) angle or space between the guard-cells of a stoma. Compare **VESTIBULE**.

**ĀNTĚN'NĀE** (sing. **ĀntĚn'nà**), two slender horn-like prolongations of the rostellum in the genus *Catasetum* in orchids which, upon being touched by an insect or other object, cause the liberation of the retinaculum at their base and the ejection of the pollinium.

**ĀNTEPŌŠITION**, see **SUPERPOSITION**.

**ĀNTĚRĪŌ-POSTĚRĪŌR PLANE**, see **MEDIAN PLANE**.

**ĀNTĚRĪŌR**, the side of a flower, leaf, or other organ away from the main stem or axis; inferior; exterior; in front. Compare **DORSAL**.

**ĀNTHĚLĀ**, a paniculate cyme with the lateral axes overtopping the central, as in many species of *Juncus* and *Luzula*.

**ĀN'THEMŸ**, a flower-cluster of any kind. (Obs.)

**ĀN'THER**, the pollen-bearing part of a stamen.

**ĀN'THERĪD'ĪŪM** (pl. **Ānther-īd'īā**), the male organ in the higher cryptogams within which antherozoids are produced.

**ĀN'THERĪF'EROŪS**, anther-bearing.

**ĀN'THER-LOBES**, the cells or sacs of an anther, usually two in number, containing the pollen.

**ĀN'THERŌID**, anther-like.

**ĀN'THERŌSPŌRĀN'GĪŪM** (pl. **ĀntherŏspŏrĀn'gĭā**), see **MICROSPORANGIUM**.

**ĀN'THERŌZŌID**, one of the motile fertilizing bodies produced in an antheridium; spermatozoid.

**ĀNTHĒ'SIS**, the time or act of flowering; florescence.

**ĀNTHŌCĀR'POŪS FRUIT**, generally used for Collective fruit, but more properly for Accessory fruit.

**ĀNTHŌCLĪN'ĪŪM**, see CLINANTHIUM,

**ĀNTHŌ'DĪŪM**, the capitulum or head of flowers in Compositae (popularly called a flower). Compare CLINANTHIUM.

**ĀN'THOID**, resembling a flower.

**ĀN THŌLĪTE**, a fossil flower.

**ĀNTHŌL'YSIS**, a retrograde metamorphosis of a flower by which normally united or contiguous parts are separated; solution of a flower. The parts of the altered flower may or may not be changed in character.

**ĀN'THŌPHŌRE**, a stalk or internode sometimes developed between the calyx and corolla, as in *Silene*.

**ĀNTHŌTĀX'IS**, the arrangement of flowers in an inflorescence; anthotaxy.

**ĀN'THŌTĀXŸ**, see ANTHOTAXIS.

**ĀNTĪCLĪ'NĀL**, said of cell-walls or any lines when perpendicular to the outer surface. Compare PERICLINAL.

**ĀNTĪCOŪS**, facing anteriorly.

**ĀNTĪD RŌMĀL**, twisted or coiled in an opposite direction to that with which it is compared, as when the leaf-spiral of a branch turns in the opposite direction from that of the stem; antidromous. Compare HOMODROMOUS and HETERODROMOUS.

**ĀNTĪD'RŌMOŪS**, see ANTIDROMAL.

**ĀNTĪD'RŌMŸ**, having the course

of a spiral reversed from the usual direction.

**ĀNTĪMŸCŌT'ĪC**, see FUNGICIDAL.

**ĀNTĪPATHĒT'ĪC**, said of plants which do not unite readily when grafted.

**ĀNTĪPEDUN'CŪLAR**, situated opposite to a peduncle.

**ĀNTĪPĒT'ĀLOŪS**, situated opposite to a petal, i.e., directly between the petal and the axis; antepetalous.

**ĀNTĪP'ŌDĀL CELLS**, a group of four cells at the lower end of the embryo-sac, one of which, destitute of a wall, is the lower polar nucleus. Compare EGG-APPARATUS.

**ĀNTĪSĒP'TĪC**, preventing putrefaction.

**ĀNTĪT'RŌPAL**, see ANTITROPUS.

**ĀNTĪT'RŌPOŪS**, having the radicle of the embryo directed away from the hilum, as in orthotropous seeds.

**ĀNTĪZŸMŌT'ĪC**, preventing or checking fermentation.

**ĀNTRŌRSE'**, directed upward or forward. Compare ANTICUS.

**ĀPĒRISPĒR'MĪC**, see EXALBUMINOUS.

**ĀPĒT'ĀLOŪS**, destitute of corolla.

**Ā'PEX** (pl. *Ā'pēxes* or *Ā'p'icēs*), the extremity opposite the point of attachment.

**ĀPHĒLIOTRŌP'ĪC**, turning from the sun; negatively heliotropic.

**ĀPHŸL'LOŪS**, without leaves.

**ĀPHŸL'LŸ**, the abnormal suppression of leaves.

**ĀP'ĪCAL CELL**, the generating cell of a growing point.

**ĀP'ICAL CONE**, see PUNCTUM VEGETATIONIS.

**ĀP'IC'ŪLĀTE**, terminated by an abrupt short acute point.

**ĀP'IC'ŪLĀTED**, see APICULATE.

**ĀP'IC'ŪLŪS** (pl. Āpic'ūli), a small acute point.

**ĀPLĀN OSPORE**, applied by Wille to non-motile reproductive cells formed by rejuvenescence in Conjugatae and some other green algæ.

**ĀPLĀS'TIC**, not capable of being organized, or converted into animal or vegetable tissue.

**ĀPŌCĀR'POŪS**, having the carpels separate or easily separable, as in Ranunculus; dialycarpous.

**ĀPŌG'ĀMŸ**, habitual non-sexual reproduction, especially vegetative reproduction where sexual reproduction usually occurs, as in the budding of a prothallus in ferns. Compare PARTHENOGENESIS and VEGETATIVE APOGAMY.

**ĀPŌGĒŌTRŌP'IC**, growing away from the earth, as ordinary stems.

**ĀPŌPĒT'ĀLOŪS**, having the petals of the corolla unattached to each other; cleutheropetalous; polypetalous.

**ĀPŌPHŸL'LOŪS**, sometimes used for aposepalous, especially in flowers having but one perianth whorl.

**ĀPŌPH'ŸSĀTE**, having an apophysis.

**ĀPŌPH'ŸSIS**, an enlargement of the seta below the theca in certain mosses; a thickening on the scales of the cones of certain pines; any irregular swelling.

**ĀPŌSĒP'ĀLOŪS**, having the leaves of the calyx unattached to each other.

**ĀPŌS'TĀSIS**, a term applied by Engelmann to the separation of organs by an unusual extension of the internodes; solution. Compare DIALYSIS.

**ĀPŌS'TRŌPHĒ**, the collection of the protoplasm and chlorophyll grains along the side walls of a cell instead of the outer surface—often caused by cold or excess or deficiency of light. When caused by deficiency of light, as at night, it is called "negative apostrophe"; when caused by too bright a light, "positive apostrophe." Compare EPISTROPHE and SYSTROPHE.

**ĀPŌTHĒ'ČIŪM** (pl. Apothecia), the ascocarp in lichens. See DISCOCARP, SHIELD, and PERITHECIUM.

**ĀPPĒND'AGE**, any superadded or subordinate part; as hairs, prickles, leaves, etc., upon a stem.

**ĀPPĒNDIC'ŪLĀTE**, having an unusual appendage or appendages, as a winged petiole, or spurred corolla.

**ĀP'PLĀNĀTE**, flattened out or horizontally expanded. Compare EXPLANATE and COMPLANATE.

**ĀP'PLICĀTIVE**, see CONDUPLICATE.

**ĀP'PŌŠITE**, close together; side by side.

**ĀPPRĒSSED'**, lying close, as leaves to a stem; adpressed.

**ĀPPRŌX'IMĀTE**, close together but not united. Compare REMOTE.

**ĀP'TEROŪS**, having no dilated appendage or wing. Compare ALATE.

**ĀQUĀT'IC**, growing in water or wet soil. See PALUSTRINE.

- Ā'QUEOŪS**, nearly colorless. See **HYALINE**.
- ĀRĀCH'NOID**, covered with long and loosely entangled hairs, the hairs fewer and longer than in **Tomentose**; cobwebby.
- ĀRĀ'NĒŪS**, see **ARACHNOID**.
- ĀR'BŌR**, see **TREE**.
- ĀR'BŌ'REAL**, pertaining to trees or forests.
- ĀR'BŌ'REOŪS**, having the nature of a tree; pertaining to trees.
- ĀR'BŌRĒS'CENT**, tree-like in size or form.
- ĀR'BŌRĒ'TŪM**, a botanical tree garden.
- ĀR'BŪSCLE**, a low shrub having the form of a tree.
- ĀRĈĒS'THĪDĀ** (obs.), see **GALBULUS**.
- ĀRĈĒBĪŌ'SĪS**, the origin of life. See **SPONTANEOUS GENERATION**.
- ĀRĈĒGŌ'NĪŪM** (pl. *ĀrĈĒgō'niā*), the female organ in the higher cryptogams. Compare **OOGONIUM**. See **ANTHERIDIUM**.
- ĀRĈĒSPŌ'RĪŪM**, the cell, group, or layer of cells from which the spore-mother-cells, and tapetum if any, are derived in the higher cryptogams and flowering plants.
- ĀRĈĒ'ETŪPE**, the original type or condition.
- ĀRĈĒ'ICARP**, the beginning of a fructification; a cell or group of cells fertilized by a sexual act, as an ascogonium or carpogonium.
- ĀR'CŪATE**, curved like a bow.
- ĀRĒĀ**, a rather large space bounded by cracks, lines, veins, or part differing in color or texture. Compare **AREOLA**.
- ĀRĒNĀ'ĈEOŪS**, growing in sandy places; arenareous; arenose; sabuline; sabulose.
- ĀRĒNĀ'RĪOŪS**, see **ARENACEOUS**.
- ĀR'ENŌSE**, see **ARENACEOUS**.
- ĀRĒ'ŌLĀ** (pl. *ĀrĒ'olæ*), diminutive of area, any small space surrounded by a part differing in structure or color, as the spaces bounded by the veins in reticulate leaves, by the cracks in the surface of the thallus of certain lichens, or by the cell-walls in the leaves of mosses; areolation; areole.
- ĀRĒ'ŌLĀTE**, divided into areolæ.
- ĀRĒŌLĀ'TION**, (1) see **AREOLA**; (2) the form and arrangement of the areolæ in mosses, etc.
- ĀR'REŌLE**, see **AREOLA**.
- ĀRĠĒN'TEŪS**, white with a tinge of gray; silvery.
- ĀRĠILLĀ'ĈEOŪS**, growing in a clayey soil; argillose.
- ĀRĠILLŌSE**, see **ARGILLACEOUS**.
- ĀRHĪ'ZAL**, without roots.
- ĀR'ĪL**, a false coat which sometimes surrounds the seed, growing from the funiculus, hilum, or placenta, as the mace of nutmeg. Compare **STROPHIOLE**.
- ĀRĪL'LĀ**, see **ARIL**.
- ĀR'ĪLLĀTE**, having an aril.
- ĀR'ĪLLĀTED**, see **ARILLATE**.
- ĀR'ĪLLŌDE**, a false covering to a seed resembling an aril.
- ĀRĪL'LŪS**, see **ARIL**.
- ĀRĪS'TĀ**, see **AWN**.
- ĀRĪS'TĀTE**, having an awn.
- ĀRĪS'TŪLĀTE**, having a small awn.
- ĀR'M**, in horticulture, a large branch of a vine trained horizontally.
- ĀR'MED**, having thorns, spines, or prickles.

**ÄRMĪL'LĀ**, an annulus in the form of a plaited frill suspended from the top of the stipe below the cap in certain mushrooms.

**ÄRŌMĀ**, a pleasant characteristic odor.

**ÄRŌMĀT'IC**, possessing aroma, especially if spicy.

**ÄRRĒCT'**, directed upward from an inclined base, as the pods of milkweed. (*Asclepias*.)

**ÄR'RŌW-HEAD'ED**, see **SAGIT-TATE**.

**ÄR'RŌW-SHĀPED**, see **SAGIT-TATE**.

**ÄR'THŌNŌID**, resembling the apothecium of the genus *Arthonia* in lichens.

**ÄR'THRŌSPŌRE**, used mainly in bacteria for a spore formed by segmentation, as opposed to Endospore.

**ÄRTHRŌSTĒRIG'MĀ** (pl. *Ärthrōsterig'mātā*), a jointed sterigma in many lichens, composed of a row of cells from each of which spores are abstricted.

**ARTĪC'ŪLĀTE**, jointed; articulated.

**ARTĪC'ŪLĀTED**, see **ARTICU-LATE**.

**ÄRTĪCŪLĀ'TION**, (1) a node, joint, septum, or separable place; (2) one of the segments so marked off or separated.

**ÄRTĪC'ŪLŪS**, formerly used both for node and internode.

**ÄRTĪFĪČIĀL SYSTEM**, a system of classification based on one or a few features only, and not intended to show true relationship, as that of Linnaeus.

**ÄRŪNDĪNĀ'CEŌŪS**, reed-like.

**ÄSCĒND'ENT**, see **ASCENDING**.

**ÄSCĒND'ING**, rising obliquely, or curving upwards from near the base, as the stems of

*Stellaria* or the branches of Norway spruce; adscendent; ascendent; assurgent; adsurgent. Said of ovules which are attached to the middle portion of the placenta or sides of the ovary and are directed upward. Also, directed upward in any manner in contrast to descending, as the *ascending axis*.

**ÄSCĒND'ING ÄXIS**, the stem.

**ÄSCĒND'ING MĒTĀMŌR'PHŌSIS**, see **PROGRESSIVE METAMORPHOSIS**.

**ÄS'ČĪ**, pl., see **ASCUS**.

**ÄSCĪD'ĪĀ**, pl., see **ASCIDIUM**.

**ÄSCĪD'IFŌRM**, ascidium-shaped.

**ÄSCĪD'ĪŪM** (pl. *Äscid'īā*), a hollow pitcher-shaped leaf, like that of *Sarracenia*.

**ÄSCĪF'EROŪS**, see **ASCOPHOROUS**.

**ÄSCĪG'EROŪS**, see **ASCOGENOUS**.

**ÄS'CŌCĀRP**, the sporocarp of Ascomycetes. See **APOTHECIUM**, **PERITHECIUM**, and **CLEISTOCARP**.

**ÄSCŌG'ENOŪS**, producing asci; ascigerous.

**ÄS'CŌGŌNE**, see **ASCOGONIUM**.

**ÄSCŌGŌ'NĪŪM**, the carpogonium, or female organ in Ascomycetes before fertilization.

**ÄS'CŌPHŌRE**, the ascus-bearing layer of hyphae lining an ascocarp.

**ÄSCŌPH'ŌROŪS**, ascus-bearing; asciferous. Compare **ASCOGENOUS**.

**ÄS'CŌSPŌRE**, a spore produced in an ascus. Often inappropriately called sporidium or sporule.

**ÄS'CŪS** (pl. *Äs'čī*), one of the characteristic spore-cases of Ascomycetes borne in an ascocarp. It consists of an enlarged terminal cell containing free

- spores, most frequently eight in number.
- ĀS'CŪS-ĀPPĀRĀ TŪS**, the asci, together with the ascogenous cells. See ENVELOPE-APPARATUS.
- ĀSCŲ'PHOŪS**, without scyphi.
- ĀSĔP'TĪC**, not liable to putrefaction.
- ĀSĔX ŪAL**, without sex; destitute of stamens and pistils in flowering plants, or other sexual organs in cryptogams.
- ĀSĔXŪAL GĒNERĀ'TION**, the second stage or generation in plants having an alternation of generations. It produces spores asexually, but is itself the result of fertilization. In ferns the prothallus is the sexual, and the leaf-bearing plant the asexual, generation. See SPOROGENIUM.
- ĀS'PERĀTE**, see SCABROUS.
- ĀS PĒRGĪL'LĪFŌRM**, resembling an aspergillus (a round brush used to sprinkle holy water in Roman Catholic churches), as the stigmas of some grasses. Compare MUSCARIFORM.
- ĀSPĒRĪFŌ'LĪĀTE**, having leaves rough to the touch.
- ĀSPĒRĪFŌ'LĪOŪS**, see ASPERFOLIATE.
- ĀSPĒR'MOŪS**, without seeds.
- ĀS'PĒROŪS**, see SCABROUS.
- ĀSSĪMĪLĀ'TION**, the conversion of foreign material into the substance of the plant; constructive metabolism.
- ĀSSŪR'GĒNT**, see ASCENDING.
- ĀS'TER**, see MOTHER-STAR, DY-ASTER, AMPHIASTER, and CYTASTER.
- ĀS'TERŌID**, having flowers like the Aster. Compare ACTINIFORM.
- ĀS'TĪCHOŪS**, not in rows.
- ĀS'TŌMOŪS**, without aperture, as mosses which have not a deciduous operculum.
- ĀSŲMMĒT'RĪCAL**, not symmetrical, which see.
- ĀT'ĀVĪSM**, resemblance to a distant ancestor; remote heredity.
- Ā'TER** (in composition, *ātro-*), pure black, as distinguished from Niger.
- ĀTHĀL'LĪNE**, without thallus.
- ĀT'RŌPĀL**, see ORTHOTROPOUS.
- ĀT'RŌPHŲ**, a dwarfed or stunted condition of an organ as compared with others, or with the usual state. Especially applied to parts which seem wasted away from lack of nourishment or other cause. Compare ABORTION and DEGENERATION.
- ĀT'RŌPOŪS**, see ORTHOTROPOUS.
- ĀTRŌPŪRPŪ'REŪS**, dark purple.
- ĀTTĒN'ŪĀTE**, tapering gradually to a point or narrow extremity.
- ĀTTĒN'ŪĀTED**, see ATTENUATE.
- ĀUGMĒNĀ'TION**, increase beyond the normal number, especially the production of additional floral whorls.
- ĀU'LŌPHŲTE**, a plant which lives within another for shelter only, not as a parasite, as some Protococcaceæ.
- ĀURĀNTĪĀ'CEOŪS**, orange-colored. Darker than Aureus.
- ĀU'REŪS**, yellow, with a slight admixture of red; golden.
- ĀU'RICLE**, any ear-like appendage, as the lobes at the base of the leaves in sorrel.
- ĀU'RICLED**, see AURICULATE.
- ĀURĪC'ŪLĀ** (pl. *Āurīc'ūlĕ*), see AURICLE.
- ĀURĪC'ŪLĀTE**, having auricles, or ear-like lobes or appendages.

**ĀURĪC'ŪLĀTED**, see **AURICULATE**.

**ĀU'RĪFŌRM**, having the form of the human ear.

**ĀUSTĒRE'**, astringent or harsh to the taste.

**ĀUTŌCĀR'POŪS**, said of ovaries which are not adherent to the calyx; superior.

**ĀUTĒ'ČIOŪS**, said of a parasitic fungus which inhabits the same host-plant through all its stages of growth. Compare **HETERECIOUS**. Applied in mosses when the male and female "flowers" are in separate involucre upon the same plant.

**ĀUTŌĠ'ĀMOŪS**, self-fertilizing.

**ĀUTŌĠ'ĀMŸ**, close-fertilization; the fertilization of a flower by its own pollen. Compare **ALLOGAMY**.

**ĀUTŌĠĚN'ĒSĪS**, see **SPONTANEOUS GENERATION**.

**ĀUTŌĠ'ĒNOŪS**, self-originating. Applied to diseases which have their origin or cause within the effected organism. Compare **INFECTION**, **ESOTERIC**, and **EXOTERIC**.

**ĀUTŌĠ'ENŪS** or **MONŌĠ'ENŪS**, terms proposed in place of **Monotypic**, to indicate that a genus contains but a single species.

**ĀUTŌN'ŌMOŪS**, complete in itself. Applied to forms which continually and directly reproduce themselves, and are not mere stages in the life of a plant.

**ĀUTŌPHŸLLŌĠ'ENŸ**, the growth of one leaf upon another.

**ĀU'TŌPLĀST**, see **CHLOROPHYLL-BODY**.

**ĀUTŌTĒM'NOŪS**, capable of spontaneous division, as ordinary growing cells.

**ĀUX'ŌSPŌRE**, a large renewal-cell in *Diatomaceæ*, formed either by rejuvenescence, or developed from a zygospore produced by conjugation.

**ĀUXŌTŌNIC MOVEMENTS**, those made by growing organs, as the twining of stems. Compare **ALLASSOTONIC MOVEMENTS**.

**ĀVĒRSE'**, turned or facing away from the central axis or other object. Compare **ADVERSE**.

**ĀWL'-SHĀPED**, see **SUBULATE**.

**ĀWN**, a bristle-shaped appendage, like those on the glumes of many grasses; arista; beard.

**ĀWNED**, having an awn or beard; aristate.

**ĀX'-FŌRM**, see **DOLABRIFORM**.

**ĀX'ĪAL**, pertaining to an axis; extending in the direction of an axis; forming an axis. Compare **AXILE**.

**ĀXĪFEROŪS**, having an axis; producing stems but no leaves.

**ĀX'ĪL**, the upper angle between leaf and stem; any angle.

**ĀX'ĪLE**, occupying or belonging to the axis, as an *axile placenta*.

**ĀXĪL/LĀ** (pl. *Āxil'læ*), see **AXIL**.

**ĀX'ĪLLAR**, see **AXILLARY**.

**ĀX'ĪLLĀRŸ**, pertaining to or occupying an axil.

**ĀX'ĪS**, the central line of any body; an organ around which others are attached, especially a main stem or root.

**AXIS, ASCENDING**, see **ASCENDING AXIS**.

**AXIS, DESCENDING**, see **DESCENDING AXIS**.

**AXIS OF ĪNFLORES'ČENCE**, the part of the stem or branch along which flowers are borne. See **RECEPTACLE** and **RACHIS**.

**AX'-SHĀPED**, see **DOLABRIFORM**.

**ĀZŪG'ŌSPŌRE**, a spore in certain algæ and fungi resembling a zygosporangium, but produced asexually.

**ĀZ'ŪGŌŪS**, without a fellow or corresponding part, as a leaflet which does not have another leaflet on the opposite side of the rachis.

**BĀC'Ā**, see BERRY.

**BĀC'CĀTE**, berry-like; pulpy.

**BĀC'CĀTED**, covered with berries, or bodies resembling berries.

**BĀCCĪF'EROŪS**, producing berries.

**BĀC'ĪFŌRM**, see BACCATE.

**BĀ'CĪLLĀR**, rod- or club-shaped, like a bacillus; bacilliform.

**BĀCK**, see DORSUM.

**BĀCTĒ'RIŌIDS**, protoplasmic bodies endowed with Brownian movement, and resembling bacteria.

**BĀLD**, destitute of the usual covering, as of hair, foliage, etc.; destitute of beards or awns.

**BĀLŪS'TRĀ**, sometimes applied to fruits like the pomegranate.

**BĀND**, (1) a space between two ridges on the fruit of Umbelliferae; (2) a broad stripe, especially if transverse.

**BĀN'NER**, see VEXILLUM.

**BĀRB**, a sharp reflexed point on an awn or other process; a hair or other process having such reflexed points, or with a reflexed tip.

**BĀRB'ĀTE**, see BEARDED.

**BĀRB'ĀTED**, see BEARDED.

**BĀRBE**, see BARB.

**BĀRB'ELLĀTE** (diminutive of Barbate), having minute barbs; barbellulate.

**BĀRBĚL'LŪLĀTE**, see BARBEL-LATE.

**BĀR BŪLE**, a small barb.

**BĀRK**, the covering of the stem and roots of exogens, separated from the wood by the cambium.

**BĀRRED**, crossed by parallel horizontal bands or lines.

**BĀR'REN**, unproductive; unfruitful; sterile,—said of a plant or organ. The term "barren" is seldom applied except to a plant as a whole, and even then the term "sterile" is more often used.

**BĀ'SAL**, pertaining to the base.

**BĀSE**, the part of an organ by which it is attached to its support.

**BĀSĪDĪŌGENĒT'ĪC**, borne on a basidium.

**BĀSĪD'ĪŌPHŌRE**, a sporophore bearing a basidium.

**BĀSĪD'ĪŌSPŌRE**, a spore borne on a basidium, as those of mushrooms.

**BĀSĪD'ĪŪM** (pl. Bāsīd'īā), one of the branched cells on the spore-bearing surface of mushrooms, etc., which bear the spores. Compare STERIGMA.

**BĀSĪFĪXED**, attached by its base, as an innate anther.

**BĀSĪF'ŪGĀL**, (1) proceeding away from the base; upward; acropetal; centrifugal (centripetal when applied to the order of inflorescence); (2) derived from the base or situated at the base, as *basifugal* growth in the leaves of certain grasses.

**BĀSĪGŪN'ĪŪM**, see GYNOPHORE.

**BĀS'ĪLAR**, relating to or situated at the base.

**BĀSIN**, the depression at the

apex of an apple. Compare CAVITY and EYE.

**BĀSĪP'ETĀL**, proceeding or produced in succession toward the base; downward; centrifugal (when applied to the order of inflorescence only). Compare ACROPETAL.

**BĀSĪSCŌP'IC**, on the side toward the base; facing the base.

**BĀSS**, see BAST.

**BĀST**, the liber or inner bark; particularly the long, tapering, thick-walled phloem-cells characteristic of such bark.

**BĀS'TĀRD**, spurious; resembling something else. Used improperly for Hybrid.

**BĀST-ĈĒLLS**, thick-walled elongated spindle-shaped cells in the phloem portion of fibro-vascular bundles. They give strength and flexibility to the tissues; bast-fibres.

**BĀST-FĪBRES**, see BAST-CELLS.

**BAST-SHĒATH**, see PHLOEM-SHEATH.

**BAST, SOFT**, see SOFT BAST.

**BAST-TISSUE**, see PHLOEM

**BAST-VĚS'SEL**, see SIEVE-TUBE.

**BĚAK**, a process like the beak of a bird terminating the fruit of many leguminous and other plants; rostrum.

**BĚAKED**, ending in a prolonged narrow rigid tip like a beak; rostrate.

**BĚARD**, the awns of grasses, singly or collectively; a tuft of hairs, especially if stiff and long; sometimes applied improperly to the lower lip of labiate corollas.

**BĚARD'ED**, having a beard; beset with hairs, especially if stiff and long.

**BĚARD'LETED**, having minute beards or awns.

**BĚLL'-SHĀPED**, see CAMPANULATE.

**BĚL'LŸĬNG**, swelling out on one side, as the tube of the corolla in many Labiateæ.

**BĚR'RĬED**, see BACCATED.

**BĚR'RŸ**, an indehiscent fruit pulpy or fleshy throughout, as the grape, currant, and tomato.

**BĬĀCŪ'MĬNĀTE**, two-pointed.

**BĬĀN'GŪLĀTE**, having two angles or corners.

**BĬARTĬC ŪLĀTED**, having two joints.

**BĬĀURĬC'ŪLĀTE**, two-eared.

**BĬBRĀC'TEĀTE**, with two bracts.

**BĬBRĀC'TEŌLĀTE**, having two bractlets.

**BĬĀL'CĀRĀTE**, having two spurs.

**BĬĀL'LŌSE**, having two small hard spots or protuberances.

**BĬĀP'SŪLAR**, having two capsules. Sometimes applied to capsules which are divided before dehiscence into two parts.

**BĬĀR'PELLĀRŸ**, see DICARPELLARY.

**BĬĀR'ĬNĀTE**, two-keeled, as the palet of grasses.

**BĬĈĚPH'ĀLOŮS**, having two heads.

**BĬĈĪP'ĬTĀL**, divided into two parts.

**BĬĈĪP'ĬTOŮS**, see BICIPITAL.

**BĬCOLLĀTERAL BUNDLE**, a fibro-vascular bundle in which a strand of xylem lies between two strands of phloem.

**BĬ'COLŌR**, of two colors.

**BĬ'COLŌRED**, see BICOLOR.

**BĬCŌN'JŪGĀTE**, see BIGEMINATE.

**BĬCŌR'NŪTE**, with two horn-like processes.

**BĬCRĚ'NĀTE**, with two crena-

tures or rounded teeth. Compare DOUBLY-CRENATE.

**BĪCRŪ'RAL**, having two legs or narrow elongations, as the lip of the "man-orchis."

**BĪCŪS'PĪD**, having two sharp stiff points or cusps; bicuspidate.

**BĪCŪS'PĪDĀTE**, see BICUSPID.

**BĪDĒN'TĀTE**, having two teeth. Compare DOUBLY-DENTATE.

**BĪDĪG'ĪTĀTE**, having two finger-like divisions.

**BĪD'ŪOŪS**, lasting two days only.

**BĪĒN'NĪAL** (adj.), living two years, or requiring two seasons to come to maturity.

**BĪĒN'NĪAL**, (n.), a plant which usually matures its fruit the second year and then dies.

**BĪFĀ'CIĀL**, applied to leaves which have a distinct upper and lower surface differing in texture. Compare CENTRIC.

**BĪFĀ'RĪOŪS**, pointing in two directions; two-ranked; distichous.

**BĪ'FĒR**, a plant which ripens fruit twice a year.

**BĪF'EROŪS**, fruiting twice a year.

**BĪ'FĪD**, divided about to the middle in two parts; two-cleft.

**BĪF'ĪDĀTE**, see BĪFID.

**BĪFĪS'TŪLAR**, containing two tubular openings.

**BĪFLŌ'RĀTE**, see BĪFLOROUS.

**BĪFLŌ'ROŪS**, two-flowered.

**BĪFŌ'LĪĀTE**, having two leaves or leaflets.

**BĪFŌ'LĪŌLĀTE**, having two leaflets.

**BĪFŌLLĪC'ŪLAR**, with a double follicle.

**BĪFŌ'RĀTE**, having two perforations, as the anthers of *Rhododendron*.

**BĪF'ŌRĪNE**, a peculiar cell con-

taining raphides found in arums and certain other plants—so called because when placed in water they become turgid and discharge their contents, often from both ends.

**BĪF'ŌROŪS**, see BIFORATE.

**BĪ'FRŌNS**, having two faces or aspects; growing on both surfaces of a leaf (amphigenous).

**BĪFŪR'CĀTE**, forked; divided into two branches.

**BĪFŪR CĀTED**, see BIFURCATE.

**BĪFŪRCĀ'TION**, division into two branches.

**BĪFŪR'COŪS**, see BIFURCATE.

**BĪĠĒM'ĪNĀTE**, twice paired, as a decompound leaf with two pairs of leaflets, i.e., having a forked petiole with a pair of leaflets at the end of each division; biconjugate.

**BĪ'ĠĒNĒR**, see GENUS-HYBRID.

**BĪĠLĀND'ŪLAR**, having two glands or gland-like bodies.

**BĪJŪ'GĀTE**, having two pairs, as a leaf with two pairs of leaflets.

**BĪJŪ'GOŪS**, see BIJUGATE.

**BĪLĀ'BIĀTE**, see LABIATE.

**BĪLĀM'ĒLLĀR**, see BILAMELLATE.

**BĪLĀM'ELLĀTE**, of two plates or lamellæ.

**BĪLĀM'ELLĀTED**, see BILAMELLATE.

**BĪLĀT'ERAL**, two-sided.

**BĪLŌ'BĀTE**, two-lobed.

**BĪLŌ'BĀTED**, see BILOBATE.

**BĪ'LŌBED**, see BILOBATE.

**BĪLŌC'ŪLĀR**, two-celled—applied to ovaries, anthers, etc.

**BĪMĀC'ŪLĀTE**, having two spots.

**BĪMĀC'ŪLĀTED**, see BIMACULATE.

**BĪ'NĀRŸ**, in twos; double.

**BĪ'NĀTE**, in twos or pairs; conjugate—said of two bodies of

the same nature springing from the same point. In speaking of pinnate leaves the term *conjugate* is generally used.

**BĪNE**, a twining or climbing stem. Rare except in composition, as *wood-bine*.

**BĪNĒRV'ĀTE**, having two nerves or veins, or two which are especially prominent.

**BĪNŌ'DĀL**, containing two nodes only.

**BĪNŌ'MĪĀL**, of two names, as the generic and specific names which compose a "botanical name."

**BĪNOŪS**, see BINATE.

**BĪNŪ'CLĒĀR**, see BINUCLEATE.

**BĪNŪ'CLĒĀTE**, have two nuclei or central points; binuclear.

**BĪNŪ'CLĒŌLĀTE**, with two nucleoli.

**BĪŌċ'ELLĀTE**, with two eye-like spots.

**BĪŌĠĒN'ESĪS**, (1) the origin of life; (2) the production of living beings from other living beings in any manner—the converse of spontaneous generation (abiogenesis).

**BĪŌĠ'ENCŪS**, growing on living plants, either parasitic or not.

**BĪŌĠ'ENŸ**, the genesis or evolution of living forms, or the science which treats of it, including Ontogeny and Phyllogeny.

**BĪŌL'ŌĠŸ**, zoology and botany.

**BĪŌLŸT'ĪC**, injurious or destructive to life.

**BĪ'ŌN**, an individual morphologically independent.

**BĪŌPH'ĀGOŪS**, feeding on living organisms. Applied chiefly to insectivorous plants.

**BĪŌPLĀSM**, any living fluid; the same as protoplasm.

**BĪPĀL'ĒŌLĀTE**, with two lodicules; biloduculate.

**BĪPĀL'MĀTE**, said of leaves which are palmate upon secondary palmate petioles.

**BĪP'ĀROŪS**, bearing two objects, as a leaf with two leaflets.

**BĪPĀR'TED**, see BIPARTITE.

**BĪPĀR'TĪBLE**, divisible into two parts.

**BĪPĀR'TĪLE**, see BIPARTIBLE.

**BĪPĀR'TĪTE**, two-parted; divided into two parts to the base or nearly so.

**BĪPĀRTĪTION**, the act of dividing into two equal parts. Compare BISECTION.

**BĪPĒC'TĪNĀTE**, toothed like a comb on two sides.

**BĪPĒL'TĀTE**, having two shield-shaped parts.

**BĪPĒRĒN'NĪĀL**, said of a part which lives two years, but reproduces itself indefinitely, as the tubers of the potato. (Rare.)

**BĪPĒT'ĀLOŪS**, having two petals.

**BĪPĪN NĀTE**, said of a pinnate leaf with secondary petioles, each bearing more than one leaflet, as the honey-locust; doubly pinnate; twice pinnate.

**BĪPĪN'NĀTED**, see BIPINNATE.

**BĪPĪNNĀT'ĪFĪD**, having the divisions of a pinnatifid leaf pinnatifid; twice pinnately cleft.

**BĪPĪNNĀTĪPĀR'TĪTE**, having the divisions of a pinnatipartite leaf pinnatipartite; twice pinnately parted. It differs from Bīpinnatīfīd in having the divisions extend to near the midrib.

**BĪPĪNNĀT'ĪSECT**, having the divisions of a pinnatisect leaf

- pinnatisect; twice pinnately divided. The divisions extend to the midrib, but the segments are sessile.
- BĪPLĪ'CĀTE**, twice or doubly folded.
- BĪPŌ'RŌSE**, having two small openings or pores.
- BĪPŪNC'TĀTE**, having two small spots.
- BĪRĀ'DĪĀTE**, having two rays.
- BĪRĪ'MŌSE**, opening by two slits, as most anthers; having two clefts, slits, or narrow openings.
- BĪSĀC'CĀTE**, having two sacs or pouches.
- BĪSCŪ'TĀTE**, resembling two round bucklers placed side by side.
- BĪSĒCT'**, to divide into two equal parts.
- BĪSĒCTION**, the act of cutting or dividing into two equal parts; bipartition.
- BĪSĒP'TĀTE**, having two partitions or septa.
- BĪSĒRĪĀL**, in two rows or series.
- BĪSĒR'RĀTE**, having the teeth or serratures serrate; doubly serrate. The latter term is preferable, and *Biserrate*, though in more common use in this sense, should be applied in analogy with Bidentate to leaves or margins bearing two serratures.
- BĪSĒ TŌSE**, having two bristles; bisetous.
- BĪSĒ'TOŪS**, see BISETOSE.
- BĪSĒX'ŪAL**, containing both sexes, as a flower with both stamens and pistils; hermaphrodite; monoclínous; syncécious.
- BĪSPĪNŌSE**, having two spines.
- BĪSPŌRE**, a two-spored tetraspore.
- BĪSTĪP'ŪLED**, having two stipules.
- BĪSŪL'CĀTE**, having two longitudinal grooves or furrows.
- BĪTĒR'NĀTE**, divided into three parts, each of which is divided into three.
- BĪT'TEN**, see EROSE.
- BĪ'VĀLVE** (adj.), having two valves, as some capsules; bivalvular.
- BĪ'VĀLVE** (n.), a capsule of two valves.
- BĪVĀLV'ŪLĀR**, see BIVALVE.
- BĪVĀS'CŪLĀR**, having two vessels.
- BĪVĪT'TĀTE**, having two vittæ.
- BLĀD'DER**, (1) an inflated membranous pericarp; (2) a membranous air-sac in some water-plants which enables them to float. See AIR-BLADDER.
- BLĀD'DERŸ**, thin and inflated like a bladder, as the calyx of *Silene inflata*.
- BLĀDE**, the expanded portion of a leaf; lamina. The term *blade* is more commonly applied in grasses and *lamina* in other plants.
- BLĀNCHED**, whitened by absence of light; etiolated. Compare CHLOROSIS and ALBINISM.
- BLĀND**, fair; beautiful.
- BLĀSTĒ'MĀ**, the embryo aside from the cotyledons; also used for any point of growth or budding part. (Rare.)
- BLĀSTĒ'MĀL**, rudimentary; nascent. (Rare.)
- BLĀSTŌCĀR'POŪS**, applied to a fruit when the seed germinates within the pericarp, as sometimes occurs in the mangrove. (Rare.)
- BLĀSTŌCŌL'LĀ**, the gummy substance on many buds, as on the horse-chestnut.

**BLĀSTŌĠĒN'ESĪS**, reproduction by buds; gemmation. (Obs.)

**BLĀS'TŪS** (obs.), see **BUD** and **PLUMULE**.

**BLĪND**, applied to a malformation, chiefly in certain cultivated plants, as cabbage and cauliflower, in which the stem terminates without producing a head or inflorescence. A "blind bud" is one which fails to develop. To "go blind" is to fail to produce flower-buds where expected.

**BLĪS'TERED**, see **BULLATE**.

**BLOOM**, a coating on the surface of fruits, leaves, etc., often grayish or bluish in color, consisting of minute, waxy particles in the form of filaments, granules, or layers. See **GLAUCOUS**.

**BLŌSSOM-BUD**, see **FLOWER-BUD**.

**BLŌTCHED**, having distinct irregular spots of color. Compare **CLOUDED**.

**BLŪNT**, obtuse.

**BŌAT'-SHĀPED**, see **NAVICULAR**.

**BŌB**, a popular name for the inflorescence (thyrs) of sumach.

**BŌLE**, the body of a tree.

**BŌLL**, a globular pericarp, as that of cotton.

**BŌLT** (Hort.), to run prematurely to seed, as carrots when they seed the first year.

**BŌN'Ų**, hard, brittle, and close in texture, as the stone of the peach.

**BOOT**, a popular name for the sheath of grains and other grasses.

**BŌR'DĒR**, the expanded portion of a gamopetalous corolla, consisting of the united limbs. See also **BORDERED PIT**.

**BŌR'DĒRED**, having the margin

different from the remainder in form, color, or texture.

**BŌR'DĒRED PIT**, a thin spot or opening in a cell-wall covered on each side by a thickened convex body having a central perforation; areolated dot; discoid marking. Bordered pore of Gregory. These markings are characteristic of the wood-cells of Coniferæ. The *border* is the more or less dilated central portion of the pit or passage between the cells.

**BŌR'DĒRED PŌRE**, see **BORDERED PIT**.

**BŌSS**, a rounded protuberance.

**BŌSSED**, having a boss. Compare **UMBONATE**.

**BŌS'TRŲCHŌID**, **ĠYME** see **HELICOID CYME**.

**BŌS'TRŲCHŌID DĪCHŌT'ŌMŲ**, see **HELICHOID DICOTOMY**.

**BŌS'TRŲX**, see **HELICOID CYME**.

**BŌTĀN'ĪCĀL ĠĠOG'RĀPHŲ**, see **GEOGRAPHICAL BOTANY**.

**BŌTĀN'ĪCĀL NAME**, the generic name followed by the specific name.

**BŌTĀN'ĪCĀL NŌMENCLĀT'ŪRE**, an account of the names of plants, and of the laws for their application.

**BŌTĀN'ĪCĀL TĒRMINŌL'ŌĠŲ**, an account of the special words used in describing plants.

**BŌTĀN'ĪC ĠĀR'DEN**, a collection of growing plants systematically arranged for the purpose of study.

**BŌT'ĀNĪZE**, to seek for growing plants for the purpose of botanical investigation.

**BŌT'ĀNŲ**, the science of plants; phytology. See **STRUCTURAL**, **PHYSIOLOGICAL**, and **SYSTEMATIC BOTANY**, **BOTANICAL No-**

MENCLATURE, and BOTANICAL TERMINOLOGY.

**BŎTHRĚN'CHŮMĀ** (obs.), see PITTED TISSUE.

**BŎT'RŮS**, an old term for a cluster like that of the grape.

**BŎT'RŮID**, having the form of a bunch of grapes; botryoidal; botryose.

**BŎT'RŮŎSE**, see BOTRYOID.

**BŎTRŮI'DĀL**, see BOTRYOID.

**BŎT'TLE-SHĀPED**, see LAGENIFORM.

**BŎTŮ'LI-FŎRM**, see ALLANTOID.

**BRĀCH'ĪĀTE**, applied to branches which are decussate and spreading, as in the ash, and sometimes improperly to those which are long and widely spreading, but not decussate.

**BRĀCHŮP'ŎDOŮS**, short-stalked.

**BRĀCT**, a leaf of an inflorescence, generally subtending a flower or flower-branch. Bracts are intermediate in position between foliage leaves and floral leaves, and are usually much smaller than the ordinary leaves, and in other respects more or less modified.

**BRĀCTĚĀ** (pl. *BrāctĚĕ*), see BRACT.

**BRĀCTĚĀL**, of the nature of a bract.

**BRĀCTĚĀTE**, furnished with bracts; subtended by a bract or bracts; bracted.

**BRĀCTĚ'ŎLĀ** (pl. *Bracteolæ*), see BRACTLET.

**BRĀCTĚŎLĀTE**, furnished with bractlets.

**BRĀCTĚŎLE**, see BRACTLET.

**BRĀCTĚŎSE**, having many or conspicuous bracts.

**BRĀCT'LĚT**, a small bract, or bract upon a pedicel or secondary branch of an inflorescence.

**BRĀCT'LESS**, without bracts.

**BRĀIRD**, to germinate. (Scotch.)

**BRĀNCH** (n.), a division of a stem or other elongated organ; secondary axis.

**BRĀNCH** (v. i.), to produce branches; to ramify.

**BRĀNCH'LĚT**, a little branch or subdivision of a branch; twig.

**BREĀK** (v. i.) (Hort.): (1) to depart widely from the type and suddenly produce a new variety (nearly the same as *sport*); (2) to "bolt" or run prematurely to seed, as a biennial the first year; (3) to put forth new buds or leaves.

**BREAST-WOOD** (Hort.), branches which project outward from a wall or espalier.

**BRĚĀTH'ĪNG-PŎRE**, see STOMA.

**BREED**, see RACE.

**BRĪ'DLES**, strings of protoplasm which often connect the nucleus with the layer of protoplasm next the cell wall.

**BRĪS'TLE**, a stiff, short hair or hair-like body.

**BRĪS'TLE-PŎINT'ED**, ending in a bristle; terminating gradually in a fine sharp point, as the leaves of many mosses.

**BRĪS'TLŮ**, beset with bristles.

**BROŎD'-BUD**, a deciduous leaf-bud capable of growing into a new plant, such as the bulbils of the tiger-lily and the deciduous buds of certain lycopodiums; also applied to the soredium of lichens.

**BROŎD'-CELL**, any reproductive unicellular body produced asexually which separates from the parent plant, as the gonidia of fungi.

**BROŎD'-GĚM'MĀ**, see GEMMA.

**BROWN'ĪĀN MOVEMENT**, a trembling movement common to all minute particles sus-

pended in a liquid. Called also Brunonian movement, Pedesis, Non-vital motion, and (improperly) Molecular movement. The cause is not known.

**BRŮN'NEŮS**, deep brown, a mixture of dark gray and red.

**BRŮSH'-SHĀPED**, see ASPERGILLIFORM.

**BRŮŮL'ŮGŮŮ**, the division of botany relating to mosses; muscology.

**BŮCK'LER-SHĀPED**, see SCUTATE.

**BŮD**, an undeveloped stem or branch, or its extremity, bearing rudimentary leaves which are specially modified for its protection. See LEAF-BUD, FLOWER-BUD, and GEMMA.

**BŮD'DING**, putting forth buds or gemmæ. Also applied to Pululation, which see.

**BŮD'LĚT**, a little bud attached to a larger one.

**BŮD-RŮDĚMĚNT**, the special cells which originate the leaf-bearing axis in the pro-embryo of Characeæ.

**BŮD'-SCĀLE**, one of the modified leaves of a bud; perule.

**BŮD'-SPŮRT**, see BUD-VARIATION.

**BŮD-VĀRĪĀ'TION**, the development of a bud in a manner unusual to the species or variety, and different from the other buds upon the plant. It may be the production of a new variety or a reversion to an earlier form. Bud-variations, or "bud-sports" as they are often called, may usually be propagated by division, but their characters are seldom retained when grown from seed. Compare SEED-VARIATION.

**BŮD-VĀRĪ'ETŮ**, a variety which originated by bud-variation.

**BŮGLE-SHĀPED**, having the shape of a bugle bead;—a form varying from oblong to obovoid. Used in describing the fruit of certain cranberries.

**BŮLB**, a bud with thickened scales containing nutriment for its development, thus differing from ordinary buds, the scales of which are for protection only. Bulbs are usually subterranean.

**BŮLBĀ'ČEOŮS**, having bulbs; bulbous.

**BŮLBED**, in the form of a bulb; bulbaceous.

**BŮL'BĚL**, see BULBLET.

**BŮLBĚF'EROŮS**, bulb-bearing; bulbous.

**BŮL'BĚL**, see BULBLET.

**BŮLB'LĚT**, a little or secondary bulb, especially one above ground, as in some lilies and ferns; bulbel; bulbule. See CLOVE.

**BŮL'BŮSE**, bulb-like in shape or structure.

**BŮL'BŮ-TŮBER**, see CORM.

**BŮL'BOŮS**, producing bulbs, growing from bulbs, or bulb-bose.

**BŮLB-SCĀLE**, one of the thickened scale-like leaves of a bulb.

**BŮLB**, TŮNĚĀTĚD, see TUNICATED BULB.

**BŮL'BŮLE**, see BULBLET.

**BŮL'BŮS**, the swollen base of the stipe in mushrooms.

**BŮL'LĀTE**, having the surface blistered or puckered, as the leaves of the Savoy cabbage, the spaces between the veins of which are concave on one side and convex on the other.

**BŮL'LĚFŮRM CĚLLS**, see HYGROSCOPIC CELLS.

**BŪNCH**, an indefinite cluster or tuft.

**BŪN'DLE-SHĒATH**, a layer of closely united thin-walled parenchyma partly or wholly surrounding each fibro-vascular bundle or continuous around the fibro-vascular cylinder; phloem-sheath.

**BŪR**, a seed or head bearing hooked or barbed appendages which serve for its attachment to various animals, thus securing its dissemination.

**BŪRSÍC'ŪLĀTE**, pouch-like or furnished with pouch-like appendages.

**BŪRSÍC'ŪLĀ** (pl. *Bursic'ulæ*), an old term for the stigmatic chamber in orchids.

**BŪRSÍC'ŪLĀTE**, having a bursicula or small pouch.

**BUSH**, a shrub, especially if dense and low. *Shrub* implies the habitual form or limit of growth, but a *bush* may grow into a tree.

**BŪT'TERFLY-SHĀPED**, see PAPI-LIONACEOUS.

**BUTTERY**, applied to fruits, especially pears, the flesh of which is soft and yields readily to the pressure of the teeth, as in the White Doyenné and Seckel pears. The texture is in some respects intermediate between Breaking and Melting, which see.

**BŪT'TON** (v. i.) (Hort.), to form small heads prematurely, as cauliflower.

**BĪČŸC'LĪC**, having two cycles or whorls.

**BŸSSĀ'ČEOŪS**, resembling or consisting of fine filaments like cobweb, as the mycelium of mushrooms.

**BŸS'SOID**, resembling bissus.

**BŸS'SŪS**, an old name for the

filamentous mycelium of certain fungi.

**CĀDŪ'COŪS**, falling early, as the calyx of the poppy.

**CĀRŪLĒS'ČENT**, see CĀERULESCENT.

**CĀRŪ'LEŪS**, see CĀERULEUS.

**CĀE'SIOŪS**, pale bluish-gray; lavender-colored.

**CĀESPĪT'ĒLLŌSE**, diminutive of Cæspitose.

**CĀES'PĪTŌSE**, see CESPITOSE.

**CĀLĀTHĪD'IŪM** (obs.), see CAPITULUM. Formerly applied to the head of flowers in Compositæ, or sometimes to the involucre only.

**CĀLĀTH'ĪFŌRM**, bowl-shaped, with the margin more or less flaring, like a fruit-dish or flower-basket.

**CĀL'CĀR**, see SPUR.

**CĀL'CĀRĀTE**, having a spur, as the flower of larkspur; spur-shaped.

**CĀLCĀ'RĒOŪS**, of a dull chalk-white color; growing in chalky or limestone soils.

**CĀL'ČĒĪFŌRM**, see CALCEOLATE.

**CĀL'ČĒŌLĀTE**, slipper-shaped, as the lip of *Cypripedium*; calceiform; soleæform.

**CĀL'ČĪFŌRM**, powdery, like chalk or lime.

**CĀLČĪV'ŌROŪS**, eating into lime rock, as certain lichens.

**CĀLĪC'ŪLĀR**, cup-shaped. (Rare.)

**CĀLĪC'ŪLĀTE**, see CALYCLATE.

**CĀ'LĪX**, see CALYX.

**CĀL'LĪ** (pl.), see CALLUS.

**CĀL'LŌSE**, having hardened spots or protuberances; callused.

**CĀLLŌS'ĪTŸ**, a hard or thickened spot or protuberance; callus; wart.

**CĀL'LŪS** (pl. **Calluses** or **Calli**), (1) a hard or thickened spot or protuberance; callosity: (2) the new formation upon an injured surface, as seen at the end of a cutting: (3) a thickened deposit of formative material in the pores of the sieve-plates in certain trees in autumn: (4) a term applied to an extension of the flowering glume in grasses below its point of insertion, and which is grown to the axis or rachilla of the spikelet and separated from the free portion by a more or less distinct furrow. It is frequently covered with hairs or bristles (as in *Stipa*) which serve for attachment to other objects to secure the distribution of the seed. The Callus is sometimes present in the empty glumes also.—(Scribner.)

**CĀL'VOŪS**, bald; having a surface on which hairs are usually present destitute of them, as in an achene without a pappus.

**CĀLYCĀN'THĒMOŪS**, having petaloid sepals.

**CĀLYCĀN'THĒMŪ**, a partial or entire conversion of sepals into petals.

**CĀLYCĪFLŌ'RĀL**, having the calyx free from the ovary, and the stamens (and therefore the petals also) inserted on the calyx. Compare **THALAMIFLORAL** and **COROLLIFLORAL**.

**CĀLYCĪFŌRM**, having the form or position of a calyx.

**CĀLYCĪNAL**, see **CALYCINE**.

**CĀLYCĪNE**, pertaining to or situated on a calyx; calycinal.

**CĀLYCLE**, a whorl of bracts forming a secondary or accessory calyx outside the true calyx.

**CĀL'ŸCLED**, having a calycle.

**CĀL'ŸCŌID**, resembling a calyx.

**CĀLYC'ŪLĀTE**, having a calyculus.

**CĀLYC'ŪLĀTED**, see **CALYCU-LATE**.

**CĀLYC'ŪLŪS**, a set of involucre bracts resembling a calyx, as in *Dianthus*.

**CĀLYP'TRĀ**, the membranous hood or veil covering the capsule in mosses. It consists of the ruptured archegonium carried up by the growing sporophore. The term is also applied to the root-cap, which see.

**CĀLYP'TRĀTE**, having a calyptra or similar covering.

**CĀLYP'TRĪFŌRM**, shaped like a calyptra or candle-extinguisher, as the calyx of *Eschscholtzia*.

**CĀLYP'TRŌGEN**, a special layer of cells in certain plants from which the root-cap is developed. (Jancewski.)

**CĀ'LŸX**, the outer set of floral leaves between the bracts, if any, and the corolla. When there is but one set external to the stamens, it is usually called calyx or perianth.

**CĀ'LŸX TŪBE**, a tube of united sepals adherent to the ovary or enclosing the other parts of the flower. As the elevated margin of the receptacle sometimes forms a portion of this tube, the term "receptacular tube" is also applied to it.

**CĀM'ĀRĀ** (pl. *Cām'ārā*), an indefinite term formerly applied to various fruits having more or less membranous carpels, as the *Ranunculus* and apple. Also applied to a single carpel of such a fruit.

**CĂM'BIAL**, pertaining to cambium.

**CĂM'BIFŌRM**, said of narrow prismatic thin-walled cells, like those characteristic of cambium.

**CĂM'BIŪM**, a layer of meristem belonging to the fibrovascular system, between the xylem and phloem. In exogens it is permanent, and forms the continuous ring or layer of soft growing tissue between the wood and inner bark, from which the new growth of each is derived. It was formerly considered merely a viscid secretion, often called "descending sap," but it is now known to be composed wholly of young, easily broken cells filled with protoplasm or formative matter.

**CĂM'BIŪM LĂY'ER**, see CAMBIUM.

**CĂM'BIŪM RÎNG**, see CAMBIUM.

**CĂMPĂN'IFŌRM**, see CAMPANULATE.

**CĂMPĂNÎL'IFŌRM**, see CAMPANULATE.

**CĂMPĂN'ULĂTE**, bell-shaped, as the corolla of the harebell.

**CĂMPES'TRAL**, growing mainly in uncultivated fields.

**CĂMPŪLÎT'RŌPOŪS** (obs.), see CAMPYLOTROPOUS.

**CĂMPŪLŌSPĒR'MOŪS**, having the edges of the seed rolled inward to form a longitudinal groove or furrow, as in sweet-cicely and some other Umbelliferae.

**CĂMPŪLŌT'RŌPAL**, see CAMPYLOTROPOUS.

**CĂMPŪLŌT'RŌPOŪS**, applied to ovules or seeds which are curved upon themselves so that the micropyle is near the

chalaza, as in Cruciferae; campylotropal.

**CĂNĂL'CELLS**, an axial row of cells in the neck of the archegonium the connecting septa of which disappear, forming a canal filled with mucilage for the passage of the antherozoids.

**CĂNĂLÎC'ULĂTE**, channelled.

**CĂNĂLÎC'ULŪS** (pl. Cănalîc'ulî), a channel.

**CĂN'CELLĂTE**, having open network; lattice-like.

**CĂN'DICĂNT**, see ALBESCENT.

**CĂN'DIDŪS**, Latin for pure white.

**CĂNE**, the stem of reeds and other large grasses. Applied in horticulture to the stems of raspberries and blackberries, and one-year-old stems of grape-vines.

**CĂNĒS'CENT**, hoary (gray or whitish) from a coating of fine hairs; canus; incanus; inca-nous; incanescens.

**CĂ'NŪS**, see CANESCENT.

**CĂP**, see PILEUS.

**CĂPÎLLĂ'CEOŪS**, see CAPILLARY.

**CĂPÎL'-LĂMENT** (rare), see FILAMENT.

**CĂPÎLLĂRŸ**, long and narrow like a hair; said of a filament or channel.

**CĂPÎL'LIFŌRM**, see CAPILLARY.

**CĂPÎLLÎT'ÎŪM**, sterile filaments, often in the form of network, among the spores of puff-balls and some other fungi.

**CĂPÎTĂTE**, furnished with a globose head; growing in a head.

**CĂPÎTEL'LĂTE**, diminutive of capitata; capitular.

**CĂPÎT'ULAR**, see CAPITELLATE.

**CĂPÎT'ULÎFÔRM**, in the form of a small head.

**CĂPÎT'ULŪM** (pl. Căpî't'ulă), a dense flower-cluster, as in the clover or sunflower; a head of any kind.

**CĂP'REŌLĀTE**, having tendrils; cirrhose.

**CĂPRE'ŌLŪS** (pl. Căpre'ŏlî), see TENDRIL.

**CĂPRÎFICĀ'TION**, (1) the fertilization of the fig, by hand or by means of insects. Sometimes extended to the artificial fertilization of other fruits. (2) The process of accelerating the ripening of figs by placing on the cultivated plant branches of the wild fig (caprificus). A hymenopterous insect found on the wild plant enters the fruit to lay its eggs, causing it to ripen earlier. The same result is obtained by the practice of pricking the green figs with a needle dipped in olive-oil; also by the application of a drop of the oil to the eye of the fig. There seems to be some doubt as to whether the result from caprification by means of the wild fig is due to fertilization, or the punctures of the insect, or to both.

**CĂPSŌMĀ'NĪĀ**, an unnatural development of pistils. It may consist of excessive multiplication or of any alteration in form which impairs their function.

**CĂP'SŪLAR**, pertaining to a capsule.

**CĂP'SŪLĀTE**, enclosed in a capsule.

**CĂP'SŪLE**, any dry dehiscent fruit, especially one which is superior and polycarpellary. The sporangium of mosses is usually called a capsule.

**CĂPSŪLÎF'EROŪS**, bearing capsules.

**CĂRBŌNĀ'ŖEOŪS**, appearing as if burnt.

**CĂR'ÇERŪLE**, a dry fruit formed from a polycarpellary ovary, the carpels of which separate when ripe into indehiscent few-seeded cocci, as mallow; carcerulus. Compare SCHIZOCARP.

**CARÇ'ER'ŪLŪS**, see CARCERULE.

**CARÇÎTH'ĪUM**, an old term for Mycelium.

**CĂRICŌL'ŌGŸ**, the study of the genus Carex.

**CĂ'RÎĖŞ**, an old term for decay.

**CĂRĪ'NĀ**, see KEEL.

**CĂRĪ'NĀL**, pertaining to a keel.

**CĂRĪ'NĀL ĀESTĪVĀ'TION**, when the carina embraces the other parts of the flower.

**CĂRĪ'NĀL CĀNĀL'**, a lacuna in the xylem of a fibrovascular bundle, as in Equisetum. Compare VALLECULAR CANALS.

**CĂR'ÎNĀTE**, keel-shaped, or having a longitudinal ridge like a keel; keeled.

**CĂR'ÎNĀTED**, see CARINATE.

**CĂRÎŌP'SÎS**, see CARYOPSIS.

**CĂ'RÎŌŪS**, decayed. (Rare.) Compare CARIES.

**CĂR'NĖŌŪS**, flesh-colored; pale red. Compare CARNOSE.

**CĂR'NĖŪS**, see CARNEOUS.

**CĂRNĪV'ŌROŪS**, see INSECTIVOROUS.

**CĂR'NŌSE**, fleshy in texture. More firm than succulent or pulpy.

**CĂR'NOŪS**, pertaining to flesh; fleshy.

**CĂRPĀDĖ'LĪŪM**, see CREMOCARP.

**CĂR'PEL**, a simple pistil or one of the elements (modified leaves) of a compound pistil.

**CĂR'PELLĂRŶ**, pertaining to a carpel.

**CĂRPEĽ'LŬM** (pl. Cărpel'la), see CARPEL.

**CĂR'PID**, a ripe carpel, especially if separable.

**CĂRPID'IŬM**, a carpid or carpel.

**CĂRPŎGĚN'IC**, fruit-producing. In Florideæ applied to the special cell (or cells) of the procarpium which develops into the carpogonium.

**CĂR'PŎGŎN**, see CARPOGONIUM.

**CĂRPŎGŎ'NIŬM**, the female organ, usually multicellular, of Carposporeæ before fertilization. Compare OOGONIUM.

**CĂR'PŎLITE**, a petrified fruit; lithocarp; carpolith.

**CĂRPŎL'ŎGŶ**, the part of botany which relates to the structure of fruits. Compare POMOLOGŶ.

**CĂR'PŎPHŎRE**, the stalk of a sporocarp; a stalk elevating the gynecium above the rest of the flower (gynophore); a prolongation of the axis between the carpels, as in Umbelliferæ.

**CĂR'PŎPHŶLL**, see CARPEL.

**CĂRPŎPHŶL'LŬM** (pl. CărpŏphŶl'la), see CARPEL.

**CĂR'PŎSPŎRE**, a spore produced in a sporocarp. De Bary extends the term to all those produced on a sporophyte, thus including the spores of ferns. This makes it equivalent to the term "spore" as used by Sachs.

**CĂR'PŎSTŎME**, the opening in a sporocarp through which the spores are discharged.

**CĂRTILĂG'INOŬS**, firm and tough like cartilage.

**CĂR'ŬNCLE**, a partial aril growing from the hilum, as in Polygala; strophiole.

**CĂRŬN'CULĂ**, see CARUNCLE.

**CĂRŬN'CULĂR**, see CARUNCULATE.

**CĂRŬN'CULĂTE**, having a caruncle or the form of a caruncle; caruncular; carunculous; carunculated.

**CĂRŬN'CULĂTED**, see CARUNCULATE.

**CĂRŬN'CULOŬS** (rare), see CARUNCULATE.

**CĂRŶŎCINE'SIS**, see KARYOKINESIS.

**CĂRŶŎPHŶLLĂ'CEOŬS**, pink-like; especially having five petals with long claws, as in the pink family (Caryophyllaceæ).

**CĂRŶŎPH'YLLŎŬS**, see CARYOPHYLLACEOUS.

**CĂRŶŎP'SIS**, a dry one-seeded indehiscent fruit, with the pericarp thin and adherent to the seed, as in wheat and most other Gramineæ; cariopsis.

**CĂSQUE**, see GALEA.

**CĂSSID'EOŬS**, a term applied to an irregular corolla having the upper petal broad and helmet-shaped as in Aconitum.

**CĂSTĂ'NĚOŬS**, chestnut-colored.

**CĂSTRĂTE** (adj.), said of a stamen which contains no anther, or no good pollen.

**CĂSTRĂTE** (v.), to remove the anthers.

**CĂTĂBŎL'IC**, see KATABOLIC.

**CĂTĂCLĚ'SIŬM**, a term sometimes applied to an achenium like Mirabilis, being a one-celled, one-seeded fruit within a hardened calyx.

**CĂTĂCŎRŎL'LĂ**, a secondary corolla sometimes found inside or outside the true corolla.

**CĂTĂPĚT'ĂLOŨS**, having the bases of the petals in a polypetalous corolla adherent to the bases of the stamens, as in *Malva*.

**CĂT'ĂPHŨL**, a scale-like leaf, as on buds, rhizomes, etc. Compare **EUPHYLL**.

**CĂTĂPHŨL'LĂRŨ**, scale-like, as the perules of a bud or the rudimentary leaves on a root-stock.

**CĂT'ĒNĀTE**, see **CONCATENATE**.

**CĂTĒN'ŨLĀTE**, see **CONCATE-NATE**.

**CĂTH'ŌDĀL**, see **CATHODIC**.

**CĂTHŌD'IC**, applied to the edge of a leaf which is entered by an ascending spiral. In a right-handed spiral it would be the left edge and *vice versa*. Also spelled *Kathodic*. Compare **ANODIC**.

**CĂT'KĪN**, see **AMENT**.

**CAŨ'DĀTE**, having a long termination like a tail.

**CAŨ'DĀTED**, see **CAUDATE**.

**CAŨ'DEX** (pl. *Caŭ'dexes* or *Caŭ'diçes*), the trunk of a palm, a tree-fern, or other arborescent endogen or acrogen; an upright root-stock; the persistent base of various herbaceous perennials (in this sense obsolete). Formerly applied to the trunk of any tree.

**CAŨ'DICLE**, a little stalk, as that to which each pollen-mass in orchids is attached.

**CAUDIC'ŨLĀ**, see **CAUDICLE**.

**CAŨLĒS'ÇENT**, having a distinct leaf-bearing stem.

**CAŨ'LICLE**, the first internode, or portion of the stem below the cotyledons and above the radicle or beginning of the true root; tigellum; cauliculus, usually called radicle. Seldom

applied to the part after the plant has developed.

**CAŨ'LICŨLE**, see **CAULICLE**.

**CAŨLĪC'ŨLŨS** (pl. *Caŭlic'ŭli*), see **CAULICLE**.

**CAŨLĪF'ĒROŨS**, having a stem; caulescent.

**CAŨ'LĪFŌRM**, stem-like.

**CAŨLĪĜ'ĒROŨS**, borne upon the stem.

**CAŨ LĪNE**, pertaining to the stem; belonging to the stem, or main stem, as *cauline leaves*.

**CAŨ LĪNE BŨN'DLES**, fibrovascular bundles confined exclusively to the stem and not connected with those in the leaves. Compare **COMMON BUNDLES**.

**CAŨ'LĪS**, the stem; especially the main stem in herbaceous plants.

**CAŨLŌCĀR'POŨS**, producing fruit upon a permanent stem, as ordinary trees and shrubs.

**CAŨ'LŌME**, a general term for stems of all kinds, whether having the ordinary form and functions of stems or not. Compare **PHYLLOME**.

**CAŨLŌ'MER**, a name proposed for one of the secondary axes which form a sympodium.

**CAŨLŌTĀX'ĪS**, the arrangement of the branches upon a stem.

**CĀV'ĪTŨ** (Hort.), the depression in the stem end of an apple. Compare **BASIN**.

**ÇĒLL**, (1) one of the structural elements of living bodies, by the multiplication of which growth is effected. In plants the cell usually appears as a closed sac surrounded by a firm wall of cellulose and containing the essential element, protoplasm, and usually a nucleus, the active agent in cell-

- division. See CELLULOSE, CELL-WALL, CELL-SAP, PROTOPLASM, NUCLEUS. (2) Any cavity, as that of an anther or ovary.
- ÇĚLL-FAMILY, a group of cells of common origin: used mainly among the lower algæ; colony. See CŔENOBĪUM.
- ÇĚLL-FĪ'BRE, see NUCLEAR FIBRIL.
- ÇĚLLĪF'ĚROŮS, bearing or producing cells.
- ÇĚLL NŮ'CLĚŮS, see NUCLEUS.
- ÇĚLL-PLATE, the early condition of a cell-wall at the equator of a dividing nucleus, formed by the fusion of a series of thickenings of the spindle-fibres called by Strasburger Dermatosomes.
- ÇĚLL, PRĪMŌR'DĪAL, see PRIMORDIAL CELL.
- ÇĚLL SĀP, fluid in living cells which separates from the protoplasm as one or more vacuoles; cytenchyma. Compare VASCULAR SĀP and DEUTOPLASM.
- ÇĚLL-TĪS'SŮE, tissue composed of cells as distinguished from vessels. See CELLULAR TISSUE.
- ÇĚL'LŪLAR, composed of cells; pertaining to cells as distinguished from vessels; having the cells large and soft; containing cavities of any kind; porous.
- ÇĚL'LŪLAR BĀRK, see MESOPHLEUM.
- ÇĚL LŪLAR ĚN'VĚLŌPE, see MESOPHLEUM.
- ÇĚL'LŪLAR PLĀNTS, those which contain no fibrovascular tissue, as fungi and algæ; thallophytes.
- ÇĚL'LŪLAR SPŌRE, see COMPOUND SPORE.
- ÇĚL'LŪLAR SŸS'TĚM, the cellular portion of a plant as distinguished from the fibrovascular.
- ÇĚL'LŪLAR TĪS'SŮE, tissue in which none of the cells are modified into ducts or vessels. Especially, tissue composed of cells which are large and loose, like the pulp of fruits; parenchyma. Compare VASCULAR TISSUE.
- ÇĚL'LŪLE, a small cell.
- ÇĚLLŪLĪF'ĚROŮS, bearing or producing little cells.
- ÇĚL'LŪLŌSE, primary cell-wall substance; the material forming most of the dry matter of plants. It is seen nearly pure in cotton-fibre and in the cell-walls of most plants while young. There are many modifications of cellulose, among them Lignin in older wood and Suberin in bark.
- ÇĚLL-WALL, a sac enclosing the living contents of a cell.
- ÇĚMĚNTĀ'TION OF HŸPHĚ, their inseparable union by a cementing substance; concrescence. (DeBary.)
- ÇĚM'ĚNT-DĪSK, Müller's term for the glandular disk or retinaculum of orchids.
- ÇĚNĀN'THŸ, the suppression of stamens and pistils.
- ÇĚNŌ'BĪŮM, see CŔENOBĪUM.
- ÇĚNŌGENĚT'ĪC, secondary.
- ÇĚN'TRĀL ÇĚLL, the cell of an archegonium, from which the oosphere originates. Compare EMBRYO-SAC.
- ÇĚN'TRĀL CŌRD, a cord or bundle of elongated thin-walled cells at the centre of the stems, leaves, and fruit-stalks of many mosses which serves for the transfer of water; tissue-cord.

**ÇĖN'TRĀL ÇŸL'ĪNDĖR**, the portion of the tissue of roots and stems within the cortex. It includes the medullary and fibrovascular systems, — used mainly in roots. Compare FIBROVASCULAR CYLINDER.

**ÇĖN'TRĪC**, a term applied to such leaves as show no considerable difference between the internal structure of their upper and under sides. Compare BIFACIAL.

**ÇĖNTRĪF'ŪGĀL**, said of an inflorescence in which the terminal flower blossoms first; definite; determinate. Applied to a radicle which is turned toward the side of the fruit, or to anything else which points outward.

**ÇĖNTRĪP'ĒTĀL**, said of an inflorescence in which the lower or outer flowers blossom first; indefinite; indeterminate. Applied to radicles or seeds which point toward the axis of the fruit. Now little used in the latter sense.

**ÇĖN'TŪRŸ**, a hundred things, as a package of plants containing a hundred specimens.

**ÇĖPHĀLĀN'THĪŪM**, see ANTHODIUM.

**ÇĖPHĀLŌ'DĪĀ** (sing. ÇĖphālo'diūm), outgrowths of a lichen thallus in which algal cells are situated.

**ÇĖPH'ĀLŌID**, capitate or head-shaped.

**ÇĖRĀ'ÇĖOŪS**, wax-like.

**ÇĖRĀMĪDĪŪM** (pl. ÇĖrāmīd'īā), the ovate or urn-shaped capsule containing the spores in the red algæ (Florideæ).

**ÇĖRĪF'EROŪS**, producing wax.

**ÇĖR'NOŪS**, nodding, curved over near the top, as the flower of

narcissus upon its stem; nudent. Compare DROOPING.

**ÇĖR'NŪOŪS**, see CERNOUS.

**ÇĖR'NŪŪS**, see CERNOUS.

**ÇĖ'SIOŪS**, see CÆSIOUS.

**ÇĖS'PĪTŌSE**, in tufts or dense bunches; cæspitose; tufted.

**ÇĖS'PĪTOŪS**, see CESPITOSE.

**ÇĖSPĪT'ŪLŌSE**, in small tufts or bunches.

**CHĖ'TĀ**, Greek for bristle.

**CHĀFF**, the glumes and palets of grains and other grasses; the bracts which subtend each flower in the head of Compositæ, etc.

**CHĀIN-GĖM'MĀ**, a kind of gemma found in Mucorini having the form of a septate confervoid filament, the segments of which are capable of germination; sprouting gemma. (DeBary.)

**CHĀLĀ'ZĀ**, the base of the ovule or place where its coats unite with each other and with the nucleus. In orthotropous seeds it corresponds with the hilum.

**CHĀP'LĒT**, a series of objects arranged like beads on a string, as the spores of Cystopus.

**CHĀR'ĀCTĖR**, whatever distinguishes a plant or group of plants from others; a description composed of the distinctive features of a species or other group. See SPECIFIC CHARACTER, GENERIC CHARACTER, etc.

**CHĀRTĀ'ÇĖOŪS**, of the texture of parchment or writing-paper.

**CHĀSMŌG'ĀMŸ**, the opening of the perianth at flowering time. (Rare.)

**CHĪNK'Ÿ** (Tuckerman), see RIMOSE.

**CHLÁMÝ'DŌSPŌRE**, a kind of thick-walled spore formed asexually in Mucorini by free-cell formation within the hyphae. The term is also applied to certain thick-walled spores in protophytes, and occasionally elsewhere.

**CHLŌ'RÁNTĤÝ**, the conversion of the parts of a flower into green leaves.

**CHLŌRŌLEŪ'CĪTE**, see CHLOROPLAST.

**CHLŌRŌPHÝL**, see CHLOROPHYLL.

**CHLŌ'RŌPHÝLL**, the green coloring matter of plants.

**CHLŌ'RŌPHÝLL-BŌD'Ý**, a proteid body (plastid) in the cells of plants containing the chlorophyll; chlorophyll-granule; chlorophyll-corpuscle; chloroplast; autoplast; chloroleucite. See PLASTID and CHROMATOPHORE.

**CHLŌ'RŌPHÝLL - CŌR'PŪSČLE**, see CHLOROPHYLL-BODY.

**CHLŌ'RŌPHÝLL-GRĀIN**, see CHLOROPHYLL-BODY.

**CHLŌ'RŌPHÝLL GRĀN'ŪLE**, see CHLOROPHYLL-BODY.

**CHLŌ'RŌPHÝLL-VĚS'ICLES**, see PYRENOIDS.

**CHLŌ'RŌPLĀST**, see CHLOROPHYLL-BODY.

**CHLŌRŌ'SĪS**, an abnormal absence or diminution of the green coloring matter of plants; albinism. Compare ETIOLATION.

**CHŌR'DĀ PĪSTĪLLĀ'RĪS**, a fibro-vascular bundle in the style. (Obs.)

**CHŌRĪPĚT'ĀLOŪS**, see POLYPETALOUS.

**CHŌRĪSĚP'ĀLOŪS**, see POLYSEPTALOUS.

**CHŌ'RĪSĪS**, the production of two

or more organs in the position of one. It is considered in most cases to be a branching of very early origin. The condition may be normal or abnormal. See COLLATERAL and TRANSVERSE CHORISIS. Compare UNLINING.

**CHŌRĪSTŌPH'ÝLLOŪS**, separate-leaved. (Rare.)

**CHRŌMĀT'IC**, capable of being colored by staining agents; pertaining to color.

**CHRŌ'MĀTĪN**, that part of the protoplasm of the cell, mainly in the nucleus, which is readily and deeply colored by staining agents. It forms the chief portion of the granular fibrils called "nuclein" or "nucleoplasm."

**CHRŌMĀT'ŌPHŌRE**, the protoplasmic body (plastid) in which chlorophyll or other coloring matter is produced; color-granule; chromoplast; chromoleucite. The term is also extended by some to all plastids. See CHLOROPHYLL-BODY.

**CHRŌMĪD'IŪM**, a term sometimes applied to the gonidium or algal host of lichens.

**CHRŌMŌLEŪ'CĪTE**, see CHROMATOPHORE.

**CHRŌ'MŌPLĀST**, see CHROMATOPHORE.

**CHRŌMŌPLĀS'TĪD**, see CHROMATOPHORE.

**CHRŌ'MŌSŌME**, one of the segments of the nuclear filament in karyokinesis.

**CHRŌM'ŪLE**, a term applied to all coloring pigments found in living plants.

**CHRŌN'IZŌŌSPŌRE**, one of the microzoogonidia produced in vast numbers in Hydrodictyon—so called, because they rest for several weeks or more be-

fore germinating; chronispore; chronizospore.

**ÇİC'ÂTRİÇE**, see **CICATRIX**.

**ÇİCÂ'TRİX** (pl. Çicâtrîçês), a scar left by a falling leaf or other organ.

**ÇİËN'CHÿMÂ**, a system of inter-cellular spaces. (Kœhler.)

**ÇİL'İÂ** (sing. Çil'ium), hairs or bristles forming a row or fringe; the tail-like appendages of zoospores; single, fine, soft, hair-like terminal appendages of any kind. Compare **FLAGELLA**.

**ÇİL'İÂTE**, having cilia.

**ÇİL'IATE-DËN'TÂTE**, having teeth fringed with hairs.

**ÇİL'İFÔRM**, resembling cilia.

**ÇİL'İÖGRÂDE**, moving by means of cilia, as zoospores.

**ÇİLİ'OLÂ** (sing. Çilî'ölüm), secondary or minute cilia.

**ÇİL'İÜM** (sing.), see **CILIA**.

**ÇİN'ÇİNNÂL ÇÿME**, see **SCORPIOID CYME**.

**ÇİN'ÇİNNÂL DİEHÖT'ÖMÿ**, see **SCORPIOID DICHOTOMY**.

**ÇİN'ÇİNNÜS**, see **SCORPIOID CYME**.

**ÇİNËRÂ'ÇEOÜS**, a little paler than Cinereous.

**ÇİNË'RËOÜS**, ash-gray.

**ÇİNËRËS'ÇENT**, becoming ash-gray; cineraceous.

**ÇİNËRİ'TIOÜS**, see **CINEREOUS**.

**Çİ'ÖN**, see **SCION**.

**ÇİR'ÇİNAL**, see **CIRCINATE**.

**ÇİR'ÇİNÂTE**, rolled forward from the end, as the young leaves of many ferns.

**ÇİR'CÜMCİŞED'**, divided in a transverse circular manner.

**ÇİRCÜMNÜTÂ'TİÖN**, the act of bending around successively through different points of the compass, as is done by the ends of twining vines, and in

a less degree by other growing points; revolving nutation. See **NUTATION**.

**ÇİRCÜMSÇİS'SİLE**, dehiscing or dividing by a transverse circular line, as the fruit of purslane.

**ÇİRCÜMSCRİP'TION**, an outline or boundary.

**ÇİRRHİF'ËROÜS**, having tendrils. See **CIRRHOSE**.

**ÇİR'RHİFÔRM**, tendril-shaped; cirriform.

**ÇİR'RHÔSE**, having tendrils; cirrhiferous; cirrhous; cirrous; cirrose; capreolate. Also, resembling a tendril or coiling like a tendril; tipped with a wavy filiform appendage; slenderly flagellate.

**ÇİR'RHÔSELÿ PİN'NÂTE**, pinnate with a terminal leaflet replaced by a tendril, as in the pea.

**ÇİR'RHOÜS**, see **CIRRHOSE**.

**ÇİR'RHÜS** (pl. Çir'rbi), a tendril; capreolus.

**ÇİRRİF'ËROÜS**, see **CIRRHIFEROUS**.

**ÇİR'RİFÔRM**, see **CIRRHIFORM**.

**ÇİRRİĞ'ËROÜS**, producing tendrils. See **CIRRHOSE**.

**ÇİR'RÔSE**, see **CIRRHOSE**.

**ÇİR'ROÜS**, see **CIRRHOSE**.

**ÇİR'RÜS** (pl. Çir'rî), see **CIRRHUS**.

**ÇİSTÔ'MÂ**, see **CISTOME**.

**ÇİS'TÔME'**, a term sometimes given to a stomatic chamber when it exists as a kind of sac lined by a special layer of cells.

**CLÂDOCÂR'POÜS**, having the fruit in mosses on short lateral branches; pleurocarpous. Compare **ACROCARPOUS**.

**CLÂD'ÔDE**, see **PHYLLOCLADIUM**.

**CLÂDÔ'DİÜM** (pl. Cladô'diâ), see **PHYLLOCLADIUM**.

**CLÂD'ÔPHÿLL**, see **PHYLLOCLADIUM**.

**CLAMP-CELL**, see CLAMP-CONNECTION.

**CLAMP-CONNÉCTION**, a semi-circular process connecting two adjoining cells of a hypha. In some cases it may communicate with but one of the cells, that from which it originated, in others its extremity becomes applied to the wall of the adjoining cell, at which point both walls are absorbed, leaving a passage around the septum between the cells of the filament. The process may become cut off from the originating cell by a septum when it is called a "clamp-cell." It is found mainly in Basidiomycetes.

**CLÁSS**, a group of related orders.

**CLÁSSÍFÍCÁTION**, the systematic distribution of individuals into groups.

**CLÁTH'RÁTE**, latticed; furnished with openings like lattice-work; cancellate.

**CLÁTH'RÁTE CELL**, see SIEVE-TUBE.

**CLÁ'VÁTE**, club-shaped; gradually thickened upward or away from the extremity of attachment.

**CLÁV'ĒFÔRM**, see CLAVATE.

**CLÁV'ĒLLÁTE**, diminutive of Clavate.

**CLÁV'ICLE**, see TENDRIL.

**CLÁVÍC'ULÁ** (pl. Clavic'ulæ), a term formerly used for tendril, especially a tendril formed by a petiole.

**CLÁVÍC'ULÁTE**, having a tendril. (Rare.)

**CLÁV'IFÔRM**, see CLAVATE.

**CLÁV'ÛLE**, the club-shaped conjugating process in Mucorini. (DeBary.)

**CLAW**, the stem or narrow base

of a petal, as those of the pink; unguis.

**CLĚFT**, having narrow sinuses reaching about half way to the base. Compare PARTED and DIVIDED.

**CLEĪSTÔCÁRP**, an ascocarp which is entirely closed, and from which the spores escape by its final rupture, as that of the Erysiphææ.

**CLEĪSTÔG'ĀMOÛS**, having closed fertilization: a term applied to certain more or less depauperate flowers, sometimes underground, which never open, but are self-fertilized, as in some violets; clandestine. Cleistogamous flowers sometimes accompany flowers of the usual form on the same plant.

**CLEĪSTÔG'ĀMŸ**, self-fertilization without the flowers opening; closed-fertilization.

**CLEĪSTÔGĒNE**, a plant which bears cleistogamous flowers. See above. It may bear flowers of the ordinary form also.

**CLĚS'TINE**, see RAPHIIDIAN CELL.

**CLĪMB'ING**, rising by laying hold of other objects in any way except by twining; scandent.

**CLĪNĀN'DRĪŪM**, the part of the column of orchids containing the anther.

**CLĪNĀN'THĪŪM**, the receptacle of the flowers in Compositæ; phoranthium; clinium; anthoclinium. Compare ANTHODIUM.

**CLĪNG'STÔNE**, applied to varieties of the peach and other drupaceous fruits, in which the flesh when ripe is not readily separable from the pit. Compare FREESTONE.

**CLĪNĪD'ĪŪM**, the stalk or filament

supporting a stylospore. (Tuckerman.)

**CLĪN'ĪŪM**, see CLINANTHIUM.

**CLĪNŌSPŌRĀN'ĠĪŪM**, see PYCNIDIUM.

**CLĪNŌSPŌRE**, see STYLOSPORE.

**CLĪSTŌ**-, see CLEISTO-.

**CLŌSED**, applied to fibro-vascular bundles in which all the cambium cells become permanent tissue, as in monocotyledons. Compare OPEN.

**CLŌSED - FĒRTĪLĪZĀ'TION**, see CLEISTOGAMY.

**CLŌSE-FĒRTĪLĪZĀ'TION**, the fertilization of pistils by pollen from the same flower; self-fertilization.

**CLŌŠ'ING-MĒM'BRĀNE**, the original unthickened cell-wall at the centre of a bordered pit.

**CLOU'DĒD**, having a pale ground with ill-defined patches of a darker tint gradually shading into it.

**CLŌVE**, one of the small bulbs developed in the axils of the scales of a larger bulb, as in garlic.

**CLŪB**, one of the elements composing the pulp in the seed-cavities of the lemon and orange. It consists of a more or less oval body about one fourth of an inch long filled with juice and attached by a stalk to the inner side of the cavity or cell. Morphologically, it is a pluricellular hair.

**CLŪBBED** (Hort.), applied to the stem of an apple when its base is enlarged and fleshy. Compare CLAVATE.

**CLŪB-SHĀPED**, see CLAVATE.

**CLŪS'TĒR**, an indefinite popular term, applied mainly to small-fruits in which several fruits grow together in an inflorescence, as in the raceme of the

currant. About the same as Bunch, but applied more often perhaps to loose collections.

**CLŪS'TĒR-CŪP**, see ÆCIDIUM.

**CLŪS'TERED**, collected into or growing in a bunch, as the conglomerate flowers of dodder.

**CLŪP'ĒĀTE**, see SCUTATE.

**CLŪP'PĒIFŌRM**, see SCUTATE.

**CŌĀÇĒR'VĀTE**, see ACERVATE.

**CŌĀD'ŪNĀTE**, united at the base or farther; connate.

**CŌĀĒTĀ'NĒŌŪS**, existing or appearing at the same time; contemporaneous.

**CŌĀLĒS'ÇĒŅÇE**, the complete union of similar things. The same as Cohesion when applied to organs. Compare CONJUGATION.

**CŌĀLĒS'ÇĒŅÇE OF ÇĒLLS**, the partial or entire absorption of the partition-walls of adjoining cells, as when the cavities of long rows of cells in a tissue become connected in the formation of ducts or vessels.

**CŌĀRC'TĀTE**, crowded together; compact. Opposed to effuse.

**CŌATĒD**, composed of layers, or having a rind.

**CŌATĒD BŪLB**, see TUNICATED BULB.

**CŌB'WĒBBŸ**, having fine slender filaments or hairs like cobweb; arachnoid.

**CŌCÇĪD'ĪŪM** (pl. Cōcçid'īā), a sporocarp like that of Delesseria (one of the algæ), being a closed case with the spores borne on a central placenta.

**CŌCÇĪF'ĒROŪS**, producing berries; bacciferous.

**CŌCÇĪN'ĒŪS**, scarlet.

**CŌC'CŪS** (pl. Cōc'cī). (1) One of the separable one-seeded carpels of certain dry fruits, as Euphor-

bia. Compare REGMA. (2) A spherical or spheroidal cell among bacteria, especially of the genus *Micrococcus*.

**CŎCH'LĒĀ**, see STROMBUS.

**CŎCH'LĒĀR**, a form of aestivation in which one piece being larger covers all the others, as in *Aconitum*. Compare VEXILLARY.

**CŎCHLĒĀR'ĪFŌRM**, shaped like the bowl of a spoon.

**CŎCH'LĒĀTE**, shaped like a snail-shell; spirally turbinate. Practically the same as Strombuliform.

**CŎCKS'CŎMBED**, fasciated. Applied mainly in horticulture to strawberries which are irregular in shape from being flattened at the sides or fasciated.

**ÇĒL'ŌSPĒRM**, a cœlospermous seed.

**ÇĒLŌSPĒR'MŌŪS**, applied to the seeds (cremocarps) of coriander and some other Umbelliferae, which have the inner surface hollowed by the curving in of the top and bottom.

**ÇĒNĀN'THĪŪM**, see CLINANTHIUM. Also sometimes applied to receptacles like the fig, or to any fleshy receptacle in which the flowers are more or less embedded.

**ÇĒNŌ'BIŪM** (1) a community of a definite number of unicellular individuals united in one body of definite form, as in *Volvox*: cenobium. Compare CELL-FAMILY. (2) A name of the fruit peculiar to the Boraginaceae and Labiateae, consisting of four distinct nutlets around a common style.

**ÇĒRŪLĒS'CĒNT**, bluish, lighter than cœruleus.

**ÇĒRŪ'LĒŪS**, light blue; sky-blue.

**CŎĒTĀ'NĒŌŪS**, appearing or existing at the same time; of the same age.

**CŎHĒ'RENT**, having similar parts more or less united, as the petals in a gamopetalous corolla. Compare ADHERENT.

**CŎHĒ'SION**, the union of members of the same whorl or kind. Compare ADHESION.

**CŎ'HŌRT**, a natural group of orders within a class; alliance.

**CŎLĒŌPHŪL'LŪM**, a membranous or fleshy sheath investing the plumule in Monocotyledons.

**CŎLĒŌP'TĪLE**, see COLEOPHYLLUM.

**CŎLĒŌRHĪZĀ**, the covering through which the radicle of most Monocotyledons bursts in germination; root-sheath. The term has also been applied to the vascular-bundle sheath in roots.

**CŎL'LAR**, the line of junction between the stem and root; column; neck. Also applied to the annulus of a mushroom.

**CŎLLĀTĒRAL**, side by side.

**CŎLLĀTĒRAL BŪN'DLE**, a fibrovascular bundle having a single strand of phloem in continuous contact with a single strand of xylem. Compare BICOLLATERAL BUNDLE, RADIAL BUNDLE, and CONCENTRIC BUNDLE.

**CŎLLĀTĒRAL ÇHŌ'RĪSĪS**, when the parts originating by chorisis stand side by side; parallel chorisis. Compare TRANSVERSE CHORISIS.

**CŎLLĒCT'ING HĀIRS**, hairs upon the style in certain Compositae which serve to collect the pollen as it is discharged from the anther.

**CŎLLĒCT'IVE FRUIT**, a fruit-

- like body originating from more than one flower, as the mulberry; multiple fruit; pseudo-syncarp. Compare ANTHOCARPOUS FRUIT, ACCESSORY FRUIT, and AGGREGATE FRUIT.
- CÖLLĒCTOR'S**, see COLLECTING HAIRS.
- CÖLLĒ'CHŪMĀ**, tissue composed of cells having cartilaginous thickenings at the angles. Common beneath the epidermis of stems, and in other places where strength is required.
- CÖL'LĒT**, an old term for collar.
- CÖLLĒ'TĒRS**, glandular hairs which secrete a gummy matter (blastocolla) upon buds.
- CÖL'LÖID**, n., any substance in the colloid state.
- CÖL'LÖID**, adj., resembling jelly; the molecular condition of a class of substances, such as gums, usually produced by the disorganization of organized matter, which mix with water in all proportions and pass from the solid to the fluid state through all stages of softening, thus differing from Crystalloids, which see.
- CÖLLÖID'AL**, see COLLOID.
- CÖL'LŪM**, the neck or tapering base of the capsule in mosses; the line of junction between root and stem; collar.
- CÖL'MAR SHĀPED**, pear-shaped with a rather slender neck and large body. (J. J. Thomas.)
- CÖL'ÖNŸ**, see CELL-FAMILY.
- CÖL'ÖRED**, of any other color than green.
- CÖLPĒN'CHŪMĀ**, epidermal tissue composed of cells with sinuous margins. Not in general use.
- CÖLŪMĒ'LĀ**, the axis or central column of a pod or spore-case. Usually a placenta.
- CÖLŪMĒL'LĪFÖRM**, shaped like a little column or columella.
- CÖL'ŪMN**, the united filaments and styles in a gynandrous flower, as an orchid.
- CÖLŪM'NAR**, shaped like a column or pillar: round or nearly so, tapering slightly or none, and not so long as to be called slender. Often applied to styles. Compare TERETE.
- CÖ'MĀ**, a tuft of hairs on a seed; a terminal cluster of empty bracts; any tuft.
- CÖ'MĀTE**, see COMOSE.
- CÖMBĪNED' HŪ'BRĪD**, a derivative hybrid in which three or more species or varieties are united, as when a hybrid unites with a new parent form or another hybrid.
- CÖMB-SHĀPED**, see PECTINATE.
- CÖMMĒN'SALĪSM**, see SYMBIOSIS.
- CÖM'MĪSSŪRE**, a line of junction of two parts. In the Marattiacæ a longitudinal partition connecting the two stipules and forming an anterior and a posterior chamber. Compare SUTURE.
- CÖM'MÖN**, general, primary, or universal, as opposed to partial or secondary.
- CÖM'MÖN BŪD**, one containing both leaves and flowers, or one from which more than one flower is produced.
- CÖM'MÖN BŪN'DLE**, a fibrovascular bundle a part or the whole of which passes from the stem into a leaf.
- CÖM MÖN ĪN'VÖLŪCRE**, one subtending an inflorescence; general or universal involucre.
- CÖM'MÖN NĀME**, any name, except the "botanical name," by which a plant is known.

**CÕM'MÕN PÊDÛN'CLE**, one supporting several pedicels.

**CÕM'MÕN PÊR'IÃNTH**, applied to certain common involucre, as that surrounding the head of flowers in Compositæ.

**CÕM MÕN RÊÇÊP'TÃCLE**, one supporting more than one flower or other organ.

**CÕM'MÕN ÛM'BÊL**, see COMPOUND UMBEL and UNIVERSAL UMBEL.

**CÕ'MÕSE**, bearing a coma or tuft, or growing in tufts; comate.

**CÕMPÃCT'**, solid; close.

**CÕM'PLÃNÃTE**, flattened vertically to a level surface above and below. Applied also to several organs which are flattened or arranged so as to lie in one plane, and to such as lie flat upon or against each other, as when leaves lie flat upon the stem. Compare EXPLANATE and COMPRESSED.

**CÕMPLÊTE'**, having calyx, corolla, stamens, and pistils. Compare PERFECT.

**CÕM'PLÊX**, an assemblage of interwoven fibres, or any group of complicated parts.

**CÕM'PLÎCÃTE**, folded together forward. Compare REPLI-CATE and CONDUPLICATE.

**CÕM'POUND**, consisting of a number of similar subordinate parts forming a complete whole, as the leaf of the walnut.

**CÕM'POUND CÕR'YMB**, one with more than one flower on each ray or branch.

**CÕM'POUND DÎCHÃ'SÎÛM**, one in which the primary axis terminates in a flower, beneath which arise several secondary axes, each of which terminates in like manner, as in valerian.

**CÕM'POUND FLOW'ÊR**, an old term for the flower-head in Compositæ.

**CÕM'POUND FRÛIT**, see AGGREGATE FRUIT.

**CÕM'POUND ÎN'FLÕRÊS'CENCE**, one in which the ultimate branches each bear more than one flower, thus forming a compound spike, corymb, etc.

**CÕM'POUND LÊAF**, one having two or more distinct blades, or leaflets, as in the ash.

**CÕM'POUND Ô'VÃRÏ**, one having more than one carpel.

**CÕM'POUND PÎS'TÎL**, one composed of more than one carpel.

**CÕM'POUND RÃÇÊME'**, see PANICLE.

**CÕM'POUND SPÎKE**, one having more than one flower or spikelet on each short branch, as wheat. Applied especially when the secondary spikes are well developed, or when, as in *Panicum sanguinale*, the inflorescence consists of several spikes of nearly equal size arising from the apex of the peduncle.

**CÕM'POUND SPÕRE**, a spore consisting of more than one cell, each of which is frequently capable of germination. It differs from Gemma by its more definite form and specialized method of production. The synonyms are spore-group, semen-multiplex, compound spore, cellular spore, multicellular spore, pluricellular spore, septate spore, polyspore, sporidesm, etc. See MERISPORE.

**CÕM'POUND SPÕ RÕPHÕRE**, one formed by the cohesion of separate hyphal branches. Compare SIMPLE SPOROPHORE.

**CŌM'POUND STĒM**, a branched stem.

**CŌM'POUND ŪM'BĒL**, one in which each primary ray bears a smaller umbel instead of a single flower. Formerly known as Common, General, or Universal Umbel.

**CŌMPRĒSSĒD'**, flattened, especially lengthwise laterally, the horizontal diameter much less than the vertical. Compare DEPRESSED, OBCOMPRESSED, and COMPLANATE.

**CŌNCĀT'ĒNĀTE**, joined in a continuous series like a chain; catenate; catenulate.

**CŌNCĀT'ĒNĀTĒD**, see CONCATE-NATE.

**CŌNCAULĒS'CENÇE**, the coalescence of the pedicel of a flower with the stem for some distance above the subtending bract.

**CŌNÇĒN'TRĪC**, having a common centre.

**CŌNÇĒN'TRĪC BŪN'DLE**, a fibrovascular bundle in which a strand of one element is wholly surrounded by the other, as in some ferns in which the xylem is wholly surrounded by phloem.

**CŌNÇĒP'TĀCLE**, a name applied to sac-like receptacles of various kinds, as perithecium, cystocarp, follicle.

**CŌNÇĒPTĀC'ŪLŪM**, see CONCEPTACLE.

**CŌNCH'ĪFŌRM**, like half a clam-shell.

**CŌN'COLŌR**, of the same color as another part or plant. Also applied to several objects which are all of the same color. Compare UNICOLOR.

**CŌN'COLŌRED**, see CONCOLOR.

**CŌN'COLŌROŪS**, see CONCOLOR.

**CŌNCŌM'ĪTANT**, applied by De Bary to fibrovascular bundles which run continuously side by side without becoming separated by other bundles.

**CŌNCRĒS'ÇENÇE**, see CEMENTATION.

**CŌN'CRĒTE**, grown together.

**CŌNDŪCT'ĪNG ÇĒLLS**, narrow elongated cells associated with sieve tubes, and similar to them, but without perforated walls.

**CŌNDŪCT'ĪNG TĪS'SŪE**, tissue composed of conducting cells. Compare CONDUCTIVE TISSUE.

**CŌNDŪCT'ĪVE TĪS'SŪE**, that through which the pollen tube passes on its way to the ovary. It is often loose in texture and moist with nutritive fluid for the growth of the pollen tube.

**CŌNDŪPLĪCĀTE**, folded together forward and lengthwise in any manner; complicate. Compare REPLICATE and INFLEXED.

**CŌNE**, the fruit of Coniferæ; strobile; also applied in other plants to a fruit or inflorescence resembling the cone of the fir or pine. See GALBULUS.

**CŌNFĒRRŪ'MĪNĀTE**, closely united, as the cotyledons of the horse-chestnut.

**CŌNFĒR'TĒD**, crowded or clustered; opposed to distinct. Compare CONGESTED.

**CŌNFĒR'VŌID**, loose and filamentose, like conferva among algæ.

**CŌN'FLŪENT**, running together or blended into one; coherent.

**CŌN'FLŪENT FRŪIT**, an old term for collective fruit.

**CŌNFŌRMĒD'**, (1) closely resembling; (2) closely fitted to, as the skin to a seed.

**CŎN'GĒNĒR**, a plant of the same genus as another.

**CŎNGĒNĒR'IC**, said of two species or individuals which belong to the same genus.

**CŎNGĒ'RĪĒS**, a collection of parts or organs. (Rare.)

**CŎNGĒST'ĒD**, packed closely together.

**CŎNGLŌ'BĀTE**, clustered into a ball.

**CŎNGLŌM'ĒRĀTE**, clustered together; opposed to Diffuse.

**CŎNGLŪ'TĪNĀTE**, glued together in a mass.

**CŎN'ICAL**, in the form of a geometric cone. Said of a root when it tapers downward, or of any other part when it tapers upward or outward. Compare **OBCONICAL**.

**CŎNĪD'ĪĀ**, pl., see **CONIDIUM**.

**CŎNĪDĪF'ĒROŪS**, bearing conidia.

**CŎNĪD'ĪŌPHŌRE**, a branch of mycelium bearing one or more conidia.

**CŎNĪD'ĪŌSPŌRE**, see **CONIDIUM**.

**CŎNĪD'ĪŪM** (pl. **CŎnĪd'ĪĀ**), an asexual spore (gonidium) abstricted singly or otherwise from the apex of a filament, as in *Peronospora*. Applied chiefly where the spores form a dusty or powdery coat, but not used in *Hymenomycetes*, and in less use elsewhere than formerly, the general term *Gonidium* being now usually employed instead.

**CŎNĪF'ĒROŪS**, cone-bearing.

**CŎN'ĪFŌRM**, see **CONICAL**.

**CŎ'NĪŌČYST**, a term applied by Harvey to the oogonium of *Vaucheria*.

**CŎN'JŪGĀTE**, joined or arranged in pairs, as the leaflets of many

compound leaves; paired. See **BINATE**.

**CŎNJŪGĀ'TION**, the simplest method of fertilization, in which the male and female cells are alike or nearly so, as in the order *Conjugatae*; zygosis. The uniting cells are called gametes and the product a zygote. The conjugation of naked protoplasmic bodies, as zoospores, is sometimes called *Coalescence*.

**CŎNJŪGĀ'TION-ĈELL**, see **GAMETE**.

**CŎNJŪNCTĪVE THRĒADS**, Fol's term for spindle-fibres, which see.

**CŎNNĀS'CENT**, produced at the same time.

**CŎN'NĀTE**, said of organs of the same nature which are grown together from the first or united at the base. Compare **ADNATE**.

**CŎN'NĀTE-PĒRFŌ'LĪĀTE**, said of a pair of opposite leaves when their bases are united around the stem.

**CŎNNĒCTĪNG ĈELL**, Harvey's term for *Heterocyst*, which see.

**CŎNNĒCTĪVE**, the part of the anther (being a continuation of the filament) which connects its two lobes.

**CŎNNĒCTĪVŪM**, see **CONNECTIVE**.

**CŎNNĪ'VENT**, converging.

**CŎNNŪ'BĪŪM**, a term applied by Pringsheim to that stage in the conjugation of *Conjugatae* in which the protoplasm of the conjugating cells has coalesced.

**CŎ'NOĪD**, cone-like; conical.

**CŎNOĪD'AL**, somewhat conoid.

**CŎNSŌL'ĪDĀTĒD**, (1) grown to-

gether, said either of like or unlike parts; (2) having a small surface in proportion to bulk, as many cacti.

**CŎN'SŎRTIŠM**, see SYMBIOSIS.

**CŎN'STANT**, always present, or always in the same condition; uniform.

**CŎNSTRİCT'ĒD**, narrowed in certain places.

**CŎNSTRŪCTİVE MĒTĀB'ŎLIŠM**, see ASSIMILATION.

**CŎNTĀBĒS'ÇENCE**, the condition of being wasted away or aborted; said of anthers which contain little or no fertile pollen.

**CŎNTĀ'GIOŪS**, said of diseases which are communicable from one plant or animal to another by contact only, or by the direct transfer of the disease-producing organism. Strict contagion implies parasitism, the organism being unable to grow outside the supporting body. Compare INFECTIOUS.

**CŎNTĒR'MİNOŪS**, of equal extent.

**CŎNTİG'ŪOŪS**, near, or in contact.

**CŎNTĪN'ŪOŪS**, uniform in structure or outline; uninterrupted. Said of hyphæ which are without septa, or of objects which are in all parts of the same size, or whose diameter increases or diminishes regularly.

**CŎNTŎRT'ĒD**, in æstivation, when the margins of the floral leaves successively overlap each other (obliquely or otherwise) in one direction; twisted. Compare CONVOLUTE.

**CŎNTŎRT'ĒD ÆSTIVĀ'TION**, see above.

**CŎNTŎR'TION**, an abnormal twisting of branches or other organs.

**CŎNTŎRTŪ'PLICĀTE**, twisted and folded.

**CŎNTRACT'ĒD**, narrowed, or the successive parts shortened. Compare CONSTRICTED.

**CŎNTRACT'İLE VĀC'ŪŎLEŠ**, small cavities containing a watery fluid which make their appearance in the protoplasm of many zoospores and other motile organisms and then suddenly disappear; pulsating vacuoles. Their function is not known.

**CŎNTRACTİL'İTŸ**, a property of protoplasm by which it is enabled to change its form spontaneously, or by virtue of forces within itself. Compare IRRITABILITY.

**CŎN'TRĀRŸ**, extending in an opposite direction to something with which it is compared; as, the pod of shepherd's purse is flattened *contrary* to the partition.

**CŎNŪS**, see CONE.

**CŎN'VŎLŪTE**, rolled together lengthwise from one edge, as the leaves of the plum in the bud. The term Contorted (used mainly in æstivation) refers more especially to the relation of the organs to each other and to the axis, while Convolute (used mainly in vernalion) refers more to the manner of folding of the organ itself. A *contorted* corolla may or may not have its parts *convoluted*.

**CŎN'VŎLŪTĒD**, see CONVOLUTE.

**CŎP'RŎPHŸTE**, see SAPROPHYTE.

**CŎR'ĀCŎID**, shaped like a crow's beak.

**CŎR'ĀLLİNE**, resembling coral; coralliform; coralloid.

**CŎR'CLE**, see CORCULUM.

**CŎR'CŪLŪM**, an old term for

plumule, or plumule and radicle together.

**CÔR'DÂTE**, heart-shaped, as usually pictured, with the point of attachment at the broad end. Applied mainly to leaves.

**CÔR'DÂTĚD**, see **CORDATE**.

**CÔR'DÂTE-HÂS'TÂTE**, intermediate in form between cordate and hastate, approaching more nearly to hastate.

**CÔR'DÂTE-Ô'VÂTE**, between cordate and ovate, approaching more nearly to ovate.

**CÔR'DÂTE - SÂG'ITTÂTE**, between cordate and sagittate, approaching more nearly to sagittate.

**CÔR'DIFÔRM**, sometimes applied to solid bodies shaped like the human heart. Compare **CORDATE**.

**CÔRE**, the bony endocarp of a pome containing the seeds.

**CÔRÎA'ÇEOÛS**, leathery in texture.

**CÔRK**, tissue composed of firm elastic cells, generally soon filled with air, which are produced in the bark and upon injured surfaces. It is composed of a modification of cellulose called Suberin, and is designed for protection.

**CÔRK-CÂM'BÎÛM**, see **PHELLOGEN**.

**CÔRK-MÊR'ISTÊM**, see **PHELLOGEN**.

**CÔRK'Ï ÊN'VÊLÔPE**, see **CORKY LAYER**.

**CÔRKY LÂY'ÊR**, the layer of bark immediately below the epidermis which produces the cork; epiphloeum. Compare **MESOPHLEUM**.

**CÔRM**, the enlarged base of an herbaceous stem, consisting of one or a few short internodes, and serving for the storage of

starch or other reserve food-materials; pseudo-bulb; solid bulb; bulbo-tuber. It differs from a Tuber mainly in being upright, or more nearly so, and in seldom being produced upon an elongated subterranean stem. The Indian turnip and crocus are examples. Compare **PLATEAU**.

**CÔR'MÛS**, see **CORM**.

**CÔR'MÔPHÏTE**, a plant having a true stem. Compare **THALLOPHYTE**.

**CÔR'NÊOÛS**, having the texture of horn.

**CÔRNIC'ULÂTE**, having a process or appendage like a little spur or horn. Compare **CORNUTE**.

**CÔR'NÎFÔRM**, horn-shaped.

**CÔR'NÛ** (pl. *Côr'nûâ*), see **HORN**.

**CÔR'NÛTE**, horn-shaped, as the nectary of columbine, or bearing a horn-shaped process; corniform. Compare **CORNICULATE**.

**CÔR'ÔL** (obs.), see **COROLLA**.

**CÔRÔL'LÂ**, the conspicuous part of most flowers, being the inner set of floral envelopes when there is more than one, commonly distinguished by its fine texture and by having some other color than green. See **PETAL**, **CALYX**, and **PERIANTH**.

**CÔRÔLLÂ'ÇEOÛS**, like a corolla in appearance or texture; petaloid. Petaloid is the term usually employed, especially when referring to individual organs.

**CÔR'ÔLLÂTE**, having a corolla.

**CÔR'ÔLLÂTĚD**, see **COROLLATE**.

**CÔR'ÔLLĚT**, see **FLORET**.

**CÔRÔLLÎFLÔ'RAL**, having calyx, petals, and ovary inserted separately on the receptacle and

- the stamens inserted upon the corolla. Compare CALYCIFLORAL and THALAMIFLORAL.
- CÖR'ÖLLĪNE**, see COROLLACEOUS.
- CÖR'ÖLLŪLE**, see FLORET.
- CÖR'ÖNĀ** (pl. *Cörö'næ*), see CROWN.
- CÖR'ÖNĀTE**, having a corona or crown.
- CÖRÖN'ĪFÖRM**, having the form of a corona or crown.
- CÖRÖN'ŪLĀ** (pl. *Cörö'nulæ*), see CORONULE.
- CÖR'ÖNŪLE**, a diminutive corona or crown.
- CÖR'PŪSCLE**, (1) any very small body; (2) see CORPUSCULUM (in the first sense).
- CÖRPŪS'CŪLĀ**, pl., see CORPUSCULUM.
- CÖRPŪS'CŪLE**, see CORPUSCULUM.
- CÖRPŪS'CŪLAR**, pertaining to or composed of corpuscles or small particles.
- CÖRPŪS'CŪLŪM** (pl. *Cörpŭs'eulā*), (1) an old term for the central cell in the archegonium of Gymnosperms; sometimes applied to the whole archegonium; (2) the connecting body between the arms (retinacula) which bear the pollinia of milkweeds (*Asclepias*).
- CÖR'RUGĀTĒD**, in folds or wrinkles.
- CÖR'TĒX**, that portion of the fundamental tissue lying outside the fibrovascular bundles. In trees it is the "outer bark."
- CÖR'TICAL**, pertaining to the bark or cortex.
- CÖR'TICAL SHEATH**, the ring of primary bast (phloem) bundles. Compare MEDULLARY SHEATH.
- CÖR'TICĀTE**, having a rind or cortex.
- CÖRTİÇİF'ĒROŪS**, producing bark or cortex.
- CÖRTİÇ'ĪFÖRM**, like bark.
- CÖRTİÇ'ÖLOŪS**, growing upon the bark of trees, as many mosses and lichens.
- CÖR'TİCÖSE**, having or resembling bark; corticous.
- CÖR'TİCOŪS**, see CORTICOSE.
- CÖRTİ'NĀ**, the remnant of the veil sometimes found at the border of the pileus or cap in mushrooms.
- CÖR'YMB**, a convex or flat-topped indefinite or centripetal inflorescence, like a raceme with the lower pedicels elongated. Compare CYME.
- CÖR'YMBĀTE**, having corymbs, or growing in corymbs.
- CÖR'YMBİF'ĒROŪS**, producing corymbs.
- CÖR'YMBÖSE**, growing in or resembling corymbs; corymbous.
- CÖR'YMBÖŪS**, see CORYMBOSE.
- CÖR'YMBŪLÖSE**, arranged in small corymbs.
- CÖR'YMBŪS**, see CORYMB.
- CÖSMÖP'ÖLITE**, a plant widely extended in the world, as *Pteris aquilina*.
- CÖS'TĀ** (pl. *Cös'tæ*), see RIB.
- CÖS'TAL**, pertaining to a rib.
- CÖS'TAL-NĒRVED**, a term sometimes applied to parallel-veined leaves when the veins arise from a midrib and run toward the margins, as in the banana.
- CÖS'TĀTE**, having one or more prominent veins or ribs.
- CÖSTĒL'LĀTE**, having small ribs.
- CÖTYLĒ'DÖN**, the first leaf or leaves of a plant; seminal-leaf; seed-lobe; seed-leaf. In exogens they are usually different in form from the leaves produced afterward, and are stored with nutritive matter for the young plant.

**CÖTYLĚD ŌNOŮS**, having cotyledons.

**CÖTYL'ĪFŌRM**, like a cotyle, the articulating cavity of a bone; a little shallower than acetabuliform.

**COWLED**, see CUCULATE.

**CRĀMPŌN**, see HOLD-FAST.

**CRĀTĚR'ĪFŌRM**, goblet-shaped; narrower than Calathiform and less flaring than Cyathiform.

**CREEP'ING**, running upon or under ground and rooting; repent.

**CRĚM'ŌCĀRP**, the fruit of Umbelliferae. Also applied to other fruits of somewhat similar structure, as that of maple. See MERICARP and SCHIZOCARP.

**CRĚ'NĀ**, see CRENATURE.

**CRĚ'NĀTE**, having the margin furnished with rounded teeth, which usually point toward the apex of the object bearing them: crenated; crenelated; crenelled. See DOUBLY, ACUTELY, and OBTUSELY CRENATE.

**CRĚ'NĀTĚD**, see CRENATE.

**CRĚ'NĀTŮRE**, a tooth of a crenate margin; crenel; crena.

**CRĚNĚL'**, see CRENATURE.

**CRĚNĚLĀTĚD**, see CRENATE.

**CRĚNĚLED'**, see CRENATE.

**CRĚNELLED'**, see CRENATE.

**CRĚN'ŪLĀTE**, diminutive of crenate; having the margin furnished with fine rounded teeth.

**CRĚN'ŪLĀTĚD**, see CRENULATE.

**CRĚST**, (1) a partial aril in the form of a ridge along the raphe of some seeds, as Sanguinaria and Dicentra. Compare ARIL, STROPHIOLE, and CARUNCLE. (2) An elevated ridge or appendage terminating

any organ: a stamen is crested when the filament (connective) projects beyond the anther.

**CRĚST'ĚD**, having a ridge or terminal appendage; cristate.

**CRĚTĀ'ĈEOŮS**, (1) of the color of chalk; (2) growing on chalky land.

**CRĪB'RĀTE**, see CRIBROSE.

**CRĪB'RĪFŌRM**, see CRIBROSE.

**CRĪB'RĪFŌRM ĈĚLLS**, see SIEVE-TUBES.

**CRĪB'RŌSE**, pierced with small holes like a sieve; cribriform; cribrate.

**CRĪB'RŌSE ĈĚLLS**, see SIEVE-TUBES.

**CRĪ'NĪTE**, having a tuft or fringe of long weak hairs.

**CRĪ'NŌID**, resembling a lily.

**CRĪSP**, having the surface, especially near the margin, strongly and finely undulate, as the leaves of Savoy cabbage or the cultivated endive; curled; crispate; crisped.

**CRĪSPĀTE**, see CRISP.

**CRĪSPĚD**, see CRISP.

**CRĪS'TĀTE**, see CRESTED.

**CRĪS'TĀTĚD**, see CRESTED.

**CRĪT'ICAL**, difficult to characterize or classify.

**CRŌSS**, a union of two varieties of the same species. Applied in a narrower sense to the offspring of any two flowers which have been cross-fertilized. Compare HYBRID.

**CRŌSS-ĀRMED**, see BRACHIATE.

**CRŌSS-BREED**, see CROSS.

**CRŌSS-FĚRTĪLĪZĀ'TION**, the fertilization of a flower by pollen from another flower, especially from one of another variety of the same species; allogamy. Compare CLOSE-FERTILIZATION.

**CRÖSS-PÖLLINÄ TION**, the conveyance of pollen to the stigma of another flower.

**CROWN**, (1) an appendage in the throat of the corolla in some flowers, as *Silene* and *Narcissus*; corona; paracorolla. In some cases it represents a circle of metamorphosed stamens. (2) A ring of cells at the apex of the nucule in *Characeæ*. (3) Any circle of organs in the form of a crown, as the scales at the apex of an achene.

**CROWN'ING**, borne at the apex.

**CRŌZIĚR**, anything with a coiled end, as the young leaves of most ferns.

**CRU'CIĀTE**, in the form of a Maltese cross, as the petals of *Cruciferae*; cruciform; cross-shaped.

**CRUČIF'ĚROŮS**, (1) belonging to the *Cruciferae* or mustard family; (2) resembling plants of the mustard family, especially in the form of the flower.

**CRU'ČIFŌRM**, see *CRUCIATE*.

**CRŮMPLED ĚSTĪVĀTION**, when the petals are irregularly folded in the bud, as in the poppy.

**CRU'RAL**, somewhat leg-shaped. Used mainly in composition.

**CRŮSTĀ'ČEOŮS**, said of the thallus of a lichen when it forms an adherent crust which cannot be removed from the substratum without injury.

**CRŮPTŌGĀM**, a plant belonging to the lowest of the two chief divisions of the vegetable kingdom, including ferns, mosses, fungi, etc. *Cryptogams* produce no true seeds or flowers, but in most groups there is a process of fertilization essentially the same as in the higher plants.

**CRŮPTŌG'ĀMOŮS**, pertaining to cryptogams, or plants having no true flowers or seeds.

**CRŮP'TŌPHŮTE**, see *CRYPTOGAM*.

**CRŮS'TALLOĪDS**, protein bodies in the form of crystals; albumen crystals. Applied also in opposition to *Colloids* to indicate all substances susceptible of crystallization and of diffusion through a membrane. (Graham.)

**CŮ'ČŮLLĀTE**, conical, with the side cleft, and often inrolled like a cornet of paper, as the spathe of *arum* and the calyptra of some mosses; cuculiform; hooded; hood-shaped; cowled.

**CŮČŮL'LĪFŌRM**, see *CUCULLATE*.

**CŮČŮL'LŮS** (pl. *CučŮl'li*), a term sometimes given to various hood-shaped organs, especially a concave and arched sepal or petal, as the large upper sepal (galea) of *Aconitum*.

**CŮČŮMĪFŌRM**, having the form of a cucumber.

**CŮČŮRBĪTĀ'ČEOŮS**, belonging to or resembling plants of the *Cucurbitaceæ* or melon family.

**CŮL-DĚ'SĀC**, a tubular or bag-shaped cavity closed at one end.

**CŮLM**, the stem of grasses; sometimes applied to that of sedges also.

**CŮLMĪC'ŌLOŮS**, growing upon the stems of grasses, as certain fungi.

**CŮLMĪF'ĚROŮS**, producing culms.

**CŮL'TRĀTE**, shaped like a pruning-knife; broad, thin, pointed, with the end curved edgewise; cultriform.

**CŮL'TRĀTĚD**, see *CULTRATE*.

**CŪL'TRĪFÔRM**, see **CULTRATE**.

**CŪ'NĒAL**, see **CUNEATE**.

**CŪ'NĒĀTE**, wedge-shaped in outline. Said of leaves which are broad above and narrowed to the base in straight lines. The same as **Obdeltoid** but usually narrower; **cuneiform**.

**CŪNĒ'ĪFÔRM**, see **CUNEATE**.

**CŪNĪC'ŪLĀTE**, pierced with a long narrow passage or passages.

**CŪP**, (1) a concave involucre enclosing a nut, as in the acorn; cupule; (2) a discocarp (apothecium) in **Ascomycetes**.

**CŪP-SHĀPED**, a rather indefinite term, usually applied to cavities from one half to twice as deep as broad, with concave bottom and nearly vertical sides

**CŪ'PŪLĀ**, see **CUP**.

**CŪ'PŪLĀTE**, furnished with a cup or cupule.

**CŪ'PŪLE**, see **CUP**.

**CŪPŪLĪF'ĒROŪS**, bearing or furnished with a cupule or cupules.

**CŪ'PŪLĪFÔRM**, see **CUP-SHAPED**.

**CŪRD**, applied in horticulture to the material composing the head in cauliflower. Sometimes the heads individually are called "curds."

**CŪRLED**, see **CRISP**.

**CŪRVĪCAU'DĀTE**, having a curved tail.

**CŪRVĪCÔS'TĀTE**, having curved ribs or large veins.

**CŪRVĪDĒN'TĀTE**, having curved teeth.

**CŪR'VĪFÔRM**, curved.

**CŪR'VĪNĒRVED**, having curved nerves. Applied to the veins (so-called nerves) of endogens.

**CŪRVĪSĒ'RĪAL**, in curved ranks. Compare **RECTISERIAL**.

**CUSH'ION**, a thickened medial portion of the prothallus in ferns; any pulvinus.

**CŪSP**, a sharp rigid point.

**CŪSPED**, see **CUSPIDATE**.

**CŪS'PĪDĀTE**, furnished with a cusp.

**CŪS'PĪS**, see **CUSP**.

**CŪT**, acutely cleft or parted; having acute incisions deeper than **Dentate**. Compare **CLEFT**, **INCISED**, and **LACINIATE**.

**CŪ'TĪCLE**, the outer cell-wall of the epidermis when thickened or otherwise modified.

**CŪTĪCŪLĀRĪZĀ'TION**, the formation of cuticle.

**CŪ'TĪN**, see **SUBERIN**.

**CŪ'TĪS**, see **CUTICLE**.

**CŪTĪNĪZĀ'TION**, the formation of cuticle. Compare **SUBERIZATION**.

**CŪT-TOOTHED**, deeply and sharply toothed.

**ÇYĀ'NĒŪS**, pure blue. Compare **CÆRULEUS**.

**ÇYĀN'ĪC FLOWĒRS**, those whose color contains more or less blue. Compare **XANTHIC FLOWERS**.

**ÇYĀN'ŌPHŶLL**, see **PHYLLOCYANIN**.

**ÇYĀTH'ĪFÔRM**, wine-glass shaped. Compare **COTYLIFORM** and **ACETABULIFORM**.

**ÇYĀTH'ĪŪM**, a corolla-like involucre, as in **Euphorbia**.

**ÇY'ĀTHŌID**, see **CYATHIFORM**.

**ÇY'CLE**, a complete turn in a spire or circle.

**ÇY'C'LĪC**, having the floral organs in distinct whorls. Compare **HEMICYCLIC** and **ACYCLIC**.

**ÇY'C'LĪCAL**, coiled into a full circle.

**ÇYCLŌ'SĪS**, see **ROTATION**.

**ÇYCLÔSPĒR'MOŮS**, having the embryo coiled around the central albumen, as in the Caryophyllaceæ.

**ÇYLĪNDRĀ'ÇEOŮS**, nearly cylindrical.

**ÇYLĪN'DRĪCAL**, circular in transverse outline and tapering but little if at all, as most stems.

**ÇY'MĀ**, see CYME.

**ÇYM'BĒFŌRM**, see NAVICULAR.

**ÇYM'BĪFŌRM**, see NAVICULAR.

**ÇYME**, a somewhat flat-topped determinate inflorescence resembling a corymb.

**ÇYME'LET**, see CYMULE.

**ÇYMĪF'ĒROŮS**, producing cymes.

**ÇYMŌ-BŌT'RŪS**, a mixed inflorescence in which the primary inflorescence is botryose while the secondary is cymose, as in the horse-chestnut.

**ÇY'MŌID**, having the form of a cyme.

**ÇY'MŌSE**, growing in cymes; cymous; or cymoid.

**ÇY'MŌSE ĪNFLŌRĒS'ÇENÇE**, a cyme or other determinate inflorescence.

**ÇY'MŌSE ŪM'BĒL**, one having the inflorescence centrifugal; a cyme resembling an umbel. Umbels are usually botryose (centripetal) in inflorescence.

**ÇY'MOŮS**, see CYMOSE.

**ÇYM'ŪLĀ**, see CYMULE.

**ÇY'MŪLE**, a little cyme, or division of a compound cyme. Sometimes applied to the verticillasters of Labiatae.

**ÇYNĀRRHŌ'DIŪM**, a fruit-like body, like the hip of roses, consisting of several achenia enclosed in a fleshy receptacle.

**ÇYNĀR'RHŌDŌN**, see CYNARRHIDIUM.

**ÇYPĒRĀ'ÇEOŮS**, resembling or

pertaining to plants of the family Cyperaceæ.

**ÇYPHĒL'LĀ** (pl. *Cyphēl'lā*), a kind of pit in the under-surface of the thallus of some lichens. *Cyphellæ* sometimes appear as spots or as elevations. Their nature is unknown.

**ÇYPHĒL'LĀTE**, having *Cyphellæ*.

**ÇYP'SĒLĀ**, an achenium with an adherent calyx-tube, as in Compositæ. (Obs.)

**ÇYST**, a closed sac, especially one abnormally produced, or whose nature is not understood.

**ÇYS'TĪD** (pl. *Çystīds* or *Çys'tīdēs*), a large sterile club-shaped cell common among the basidia in some agarics.

**ÇYSTĪD'IŪM** (pl. *Çystīd'īā*), see CYSTID.

**ÇYS'TŌBLĀST** (obs.), see NUCLEUS.

**ÇYS'TŌCĀRP**, an old term for the Sporocarp of Floridææ.

**ÇYS'TŌLĪTH**, a cluster of crystals of calcium carbonate in a cell upon a stalk of cellulose. Common in the leaves of the nettle family (Urticaceæ).

**ÇYTĀS'TĒR**, a series of achromatic rays extending from each pole of the nucleus in karyokinesis into the cytoplasm. Rarely seen as yet in plants.

**ÇYTĒN'CHY'MĀ**, see CELL-SAP.

**ÇYT'ĪŌDĒRM**, the cell-wall in Diatomaceæ.

**ÇYTŌBLĀST** (Schleiden), see NUCLEUS.

**ÇYTŌDIĒR'ĒSĪS**, cell-division, involving division of the nucleus with the formation of a nu-

clear-spindle and asters. (Carnoy.) Compare STENOSIS.

**ČYŤŌĚEN'ĚSIS**, cell-formation.

**ČYŤŌL'ŌĚY**, the science of cells.

**ČYŤŌPLĂSM**, the protoplasm in a cell outside the nucleus. It excludes granules of protein, starch, etc. Compare NUCLEOPLASM.

**DĂRWĪN'IAN CŪR'VĂŤŪRE**, the curvature of the growing apex of a root away from any source of irritation placed upon one side near the tip. It is the irritability which causes this curvature that enables growing roots to pass around obstacles in the soil.

**DAUGH'TĚR-ČĚLL**, any cell when mentioned in relation to the one from which it was derived. Compare MOTHER-CELL.

**DAUGH'TĚR-SPŌRE**, a spore produced directly from another, or upon a promycelium.

**DAUGH'TĚR-STĂR**, one of the groups of chromatic filaments at the poles of a dividing nucleus. The two polar figures together with the connecting spindle-fibres are called a Dyaster.

**DĚĂLBĂTE**, appearing as if whitewashed; covered with a very white bloom or powder.

**DĚCĂĚYN'IAN**, see DECAGYNOUS.

**DĚCĂĚYNOŮS**, having ten pistils or styles; decagynian.

**DĚCĂM'ĚROŮS**, having the parts in tens, as ten floral organs in a whorl. Also written 10-merous.

**DĚCĂN'DRIAN**, see DECAN-DROUS.

**DĚCĂN'DROŮS**, having ten stamens; decandrian.

**DĚCĂPĚŤ'ALOŮS**, having ten petals.

**DĚCĂPHYL'LOŮS**, having ten leaves, as a *decaphyllous* perianth.

**DĚCĚMDĚN'TĂTE**, having ten teeth or tooth-like processes.

**DĚCĚM'FID**, ten-cleft.

**DĚCĚMLŮC'ŮLAR**, having ten loculi or cells in an ovary.

**DĚČID'ŮOŮS**, falling at the usual time, or at the close of the season. Applied to leaves which fall in autumn after one season's growth, and to plants which bear such leaves. Also applied to petals which fall immediately after blossoming. Compare CADUCOUS, MARCESCENT, PERSISTENT, and EVERGREEN.

**DĚCLINĂTE**, bent or curved downward: declining; declined. Applied to stamens it means curved to one side, neither outward nor inward nor erect. Compare RECURVED, REFLEXED, RECLINATE.

**DĚCLINED'**, see DECLINATE.

**DĚCLINOŮS**, see DECLINATE.

**DĚCŌMPOUND'**, twice compound, as a compound leaf whose parts are compound. See SUPRADECOMPOUND.

**DĚCRĚAS'INGLY - PĪN'NĂTE**, having the leaflets of a pinnate leaf gradually smaller in size from base to apex.

**DĚCŪMBENT**, erect at the base, then prostrate, with the end rising.

**DĚCŪR'RENT**, prolonged and attached below the main point of insertion, as the leaves of thistles; decursive. The stems in such cases are often called Winged. Compare SURCURRENT.

**DĚCŪR'SIVE**, see DECURRENT.

**DĒCŪR'SIVELY-PĪN'NĀTE**, apparently pinnate, but having the segments decurrent along the rachis.

**DĒCŪS'SĀTE**, said of leaves which grow in pairs successively at right angles to each other. Compare **BRACHIATE**.

**DĒCŪS'SĀTĒD**, see **DECUSSATE**.

**DEDOUBLEMENT** [Day-doo-bl-i-mān], see **CHORISIS**.

**DĒDŪPLICĀTION**, see **CHORISIS**.

**DĒF'ĒRENT**, carrying anything downwards.

**DĒF'ĪNĪTE**, (1) having a constant, fixed, or limited, number; in stamens not exceeding twenty; (2) the same as **Determinate**, which see.

**DĒF'ĪNĪTE GRŌWTH**, see **DETERMINATE GROWTH**.

**DĒF'ĪNĪTE ĪNFLŌRĒS'ÇENÇE**, see **DETERMINATE ĪNFLŌRĒS-ÇENCE**.

**DĒFLĒCT'ĒD**, see **DEFLEXED**.

**DĒFLĒXED'**, bent abruptly to one side or outward at an angle of forty-five degrees or less; deflected. Compare **REFRACTED** and **RECURVED**.

**DĒFLŌ'RĀTE**, past the flowering state, as an anther after it has shed its pollen, or a plant or flower after the petals have fallen.

**DĒFŌ'LIĀTE**, having cast its leaves.

**DĒFŌLIĀTION**, the fall of leaves.

**DĒF'ĒRMĀTION**, an alteration in the usual form of an organ, by accident or otherwise; malformation.

**DĒGĒNĒRĀTION**, deficiency in size or quality, or appearing in a less developed or lower state, as when scales take the place of leaves, or petals the place of stamens; degradation.

**DĒGRĀDĀTION**, see **DEGENERATION**.

**DĒHĪSÇE'**, to open for the escape of seeds, spores, etc.

**DĒHĪS'ÇENÇE**, the opening in a regular manner of certain fruits to discharge their seeds, and of anthers and spore cases to discharge their contents.

**DĒHĪS'ÇENT**, opening in a regular manner to discharge the contents, as most pods to liberate the seeds. Compare **INDEHISCENT**.

**DĒLĪMĪTĀTION**, see **ABJUNCTION**.

**DĒLĪQŪĒS'ÇENT**, dissolving. Said of a tree which branches repeatedly, so that the main stem is lost. Compare **EXCURRENT**. Also applied to fungi which dissolve at maturity by the absorption of moisture from the air, as some mushrooms.

**DĒL'TŌID**, nearly in the shape of an equilateral triangle, or the Greek letter delta. When applied to leaves it implies that the attachment is at the broad end, otherwise the term **Obdeltoid** is used.

**DĒMĒRSED'**, growing constantly or naturally under water; immersed; submersed.

**DĒN'DRĪFŌRM**, tree-shaped.

**DĒNDRĪT'IC**, branched like a tree; dendriform.

**DĒN'DRŌID**, tree-shaped; dendriform; dendritic; arborescent; applied to small plants, such as mosses, which branch like a tree or shrub.

**DĒNDRŌL'ŌGŸ**, the natural history of trees.

**DĒN'ĪGRĀTE**, dark dusky brown.

**DĒNSE**, crowded together.

**DĒN'TĀTE**, having broad acute

marginal teeth which are usually directed outward. Compare **SERRATE** and **CRENATE**.

**DĚN'TĀTĚD**, see **DENTATE**.

**DĚN'TĀTE-ÇİL'ĪĀTE**, having the margin dentate and fringed.

**DĚN'TĀTE-CRĚNĀTE**, (1) having part of the margin dentate and the remainder crenate; (2) intermediate between dentate and crenate, i.e., having somewhat rounded teeth.

**DĚN'TĀTE-LĂÇIN'ĪĀTE**, having the teeth extended into long lax points.

**DĚN'TĀTE-SĚR'RĀTE**, (1) intermediate between dentate and serrate; having the teeth directed but slightly forward; (2) having part of the margin dentate and the remainder serrate.

**DĚN'TĀTE-SĪN'ŪĀTE**, having broad shallow sinuses between the teeth of a dentate margin.

**DĚNTĀTŌ-SĚR'RĀTE**, see **DENTATE-SERRATE**.

**DĚNTĀTŌ-SĪN'ŪĀTE**, see **DENTATE-SINUATE**.

**DĚN'TICLE**, a small tooth or projecting point.

**DĚNTIC'ŪLĀTE**, having small teeth or notches; finely dentate.

**DĚNTICŪLĀTION**, (1) the state of being denticulate; toothed; (2) one of the teeth of a denticulate leaf.

**DĚN'TIFŌRM**, see **DENTOID**.

**DĚN'TŌID**, tooth-shaped.

**DĚNŪDĀTE**, deprived of the usual covering, especially of a coating of down or hair. The term has been applied with little reason to plants whose flowers appear before their leaves.

**DĚŌPĚR'CŪLĀTE**, applied to

moss capsules in which the lid does not separate spontaneously to liberate the spores. Compare **DISOPERCULATE**.

**DĚPAU'PĚRĀTE**, said of a plant or part of a plant which is reduced in size from lack of nutriment, or apparently so; starved; stunted; undeveloped.

**DĚPĚND'**, to hang directly downward.

**DĚP'LĀNĀTE**, flattened vertically and expanded. Both sides may be flattened (**Complanate**) or only the upper. (Rare.) See **EXPLANATE**, **DEPRESSED**, and **COMPLANATE**.

**DĚPŘESSED'**, more or less flattened vertically or endwise; oblate. Also applied to any part having a lower position than usual, as a leaf whose disk is lower than the margin, as in some water lilies.

**DĚPŘESSED'-GLŌ'BŌSE**, globular with the poles slightly flattened; oblately spheroidal.

**DĚRIV'ĀTIVE-HYBRID**, a hybrid of which one or both the parents is a hybrid; secondary hybrid.

**DĚRMĀTŌGEN**, the primordial epidermis, i.e., the epidermis in an organ when first formed and still capable of cell-division.

**DĚRMĀTŌPHYTE**, any fungus parasitic upon the skin of man or other animals, as *Trichophyton tonsurans*, the fungus which causes ringworm.

**DĚSÇEND'ING**, directed downward in any degree.

**DĚSÇEND'ING ĀX'IS**, root.

**DĚSÇEND'ING MĚTĀMŌR'PHŌSIS**, see **RETROGRESSIVE METAMORPHOSIS**.

**DĚSÇEND'ING SĀP**, a term formerly applied to cambium

when in a soft mucilaginous condition, from the supposition that the sap passed in a current upward in the wood to the leaves, then downward between the wood and bark. See PROPER JUICE.

**DĚSČRĪP'TĪVE BŎT'ANŸ**, see PHYTOGRAPHY.

**DĚSTRŮC'TĪVE MĚTĀB'OLĪSM**, the chemical changes which take place during the waste of tissues. Compare ASSIMILATION.

**DĚSTRŮC'TĪVE PĀR'ĀSITE**, one which causes the death of the tissues of the host upon which it feeds.

**DĚTĚR'MĪNĀTEGRŌWTH**, when the season's growth ends in a well-formed bud.

**DĚTĚR'MĪNĀTE ĪNFLŌRĚS'GENCE**, one in which the flowering begins with a terminal bud so that it puts a limit to the elongation of the stem; centrifugal or definite inflorescence.

**DĚTĚR'MĪNĀ'TION**, the discovery of the botanical name of a plant, or of its position in a system if unnamed; identification. It implies some knowledge of its characters acquired by a more or less complete analysis, and is frequently completed by the aid of a systematic key.

**DEŮ'TŌPLĀSM**, the portion of the cell contents aside from the protoplasm proper, consisting of cell-sap in which may be granules or other substances; paraplasma. Compare METAPLASMA.

**DĚX'TRŌRSE**, twining upward from left to right, with the sun or hands of a watch, as the hop. Used in the opposite sense, however, by most Eng-

lish and American botanists. Compare SINISTROSE.

**DĪĀCHÆ'NĪŮM**, see MERICARP.

**DĪĀCH'ŸMĀ** (obs.), see MESOPHYLLUM.

**DĪĀDEL'PHĪAN**, see DIADELPHOUS.

**DĪĀDEL'PHŌŮS**, having filaments united by their edges in two sets (one of which may be only a single stamen), as in the pea.

**DĪĀGEŌT'RŌPĪSM**, a kind of geotropic irritability in certain organs, as rootstocks, which causes them to assume a horizontal position; transverse geotropism.

**DĪAGNŌ'SĪS** (pl. DĪagnŏ'sēs), a brief characteristic description of a plant or species.

**DĪAGNŌS'TIC CHĀR'ĀCTĚR**, see ESSENTIAL CHARACTER.

**DĪĀG'ŌNAL PLĀNES**, the two planes which bisect the right angles between the median and lateral planes. See MEDIAN PLANE and LATERAL PLANE.

**DĪĀG'ŌNAL PŌŠĪ'TION**, a position intermediate between the median and the lateral plane and bisected by the diagonal plane.

**DĪ'ĀGRĀM, FLŌ'RAL**, see FLORAL DIAGRAM.

**DĪĀHĒLIŌT'RŌPĪSM**, the tendency of organs to place their surfaces at right angles to the sun's rays, as most leaves; transverse heliotropism.

**DĪĀLYCĀR POŮS**, see APOCARPOUS.

**DĪĀLYPĚT'ALOŮS**, see POLYPETALOUS.

**DĪĀLYPHŸL'LOŮS**, see POLYSEPALOUS.

**DĪĀLYSĚP'ALOŮS**, see POLYSEPALOUS.

**DĪĀL'ŸSĪS**, the separation of organs usually joined; adesmy.

When applied to parts of a flower it refers to the separation of organs of the same whorl from each other, as when a normally gamopetalous corolla has its petals distinct. Compare SOLUTION.

**DĪAMESÖG'AMOŮS**, fertilized by the aid of some external agent, as wind, water, or insects.

**DĪĀN'DRĪAN**, see DIANDROUS.

**DĪĀN'DROŮS**, having two stamens.

**DĪAPH'ANOŮS**, transparent, or nearly so.

**DĪ'ĀPHRĀGM**, any dividing membrane or partition; septum. The term is usually applied to the septum at the node of a hollow-stemmed grass.

**DĪĀP'HŸSIS**, an old term for the proliferation of a flower.

**DĪ'ĀSTĀSE**, a ferment generated in germinating seeds, etc., which assists in the transformation of starch into sugar.

**DĪĀS'TĒR**, see DYASTER.

**DĪĀT'OMĪNE**, see PHYCOXANTHINE.

**DĪCĀR'PĚLLĀRŸ**, of two carpels; digynous.

**DĪCHĀ'SĪŮM** (pl. *Dīchā'siā*), a false dichotomy in which two lateral shoots of nearly equal strength arise beneath the apex which bears a flower; biparous, dichotomous, or forked cyme. Compare COMPOUND DICHASium.

**DĪCHĀS'TĪC**, spontaneously dividing.

**DĪCHLĀMŸD'ĒOŮS**, having both calyx and corolla.

**DĪCHÖG'AMOŮS**, having flowers in which the stamens and pistils mature at different times; either protandrous or protogynous. Compare SYNACMIC.

**DĪCHÖT'ÖMAL FLOWER**, one seated in the fork of a dichasium.

**DĪCHÖT'ÖMIZE**, to fork.

**DĪCHÖT'ÖMOŮS**, forked; furcate; bifurcate.

**DĪCHÖT'ÖMŸ**, forking into two branches of the same nature and usually of about the same size. True dichotomy is caused by the cessation of the previous increase in length of a member at the apex, and its continuance in two diverging directions from two newly constituted apices. Compare HELICOID and SCORPIOID DICHOTOMY.

**DĪCLĒ'SĪŮM**, a name formerly applied to an achenium having an adherent calyx, as in *Mirabilis*.

**DĪC'LĪNÖUS**, having the stamens and pistils in separate blossoms—either monœcious or diœcious; separated; digamous; unisexual.

**DĪCÖC'COŮS**, having an ovary consisting of two closed carpels or cocci with one seed in each, as in the Umbelliferae.

**DĪCĒ'LOŮS**, having two cavities.

**DĪCÖTYLĒD'ÖNOŮS**, having two cotyledons.

**DĪD'ŸMOŮS**, in pairs.

**DĪDŸNĀ'MĪAN**, see DIDYNAMOUS.

**DĪDŸN'AMOŮS**, having two long and two short stamens. Compare TETRADYNAMOUS.

**DĪĒ'ÇIOŮS**, see DIOECIOUS.

**DĪF'FLŮENT**, readily dissolving. Compare DELIQUESCENT.

**DĪFFÖRMED'**, of unusual shape.

**DĪFFRĀCT'**, said of a lichen thallus which is broken into areolæ separated by clefts or chinks.

**DĪFFŪSE'**, spreading widely, loosely, and irregularly. Compare **EFFUSE**.

**DĪFFŪ'SION**, the spontaneous mixture of one liquid with another, or of any dissolved or finely divided substance or any liquid through a liquid or solid. Compare **OSMOSE**.

**DĪG'AMOŪS**, see **DICLINOUS**.

**DĪG'ENOŪS**, containing both sexes or produced sexually. (Rare.)

**DĪG'ITĀTE**, having several parts radiating from one point, or nearly so, somewhat like the fingers on one's hand. Applied in grasses where several spikes radiate from nearly the same point, as in crab-grass (*Sanguinaria*). In leaves it is the same as **Palmately-compound**. Compare **PEDATE**.

**DĪG'ITĀTE PĪN'NĀTE**, having a digitate leaf with pinnate leaflets.

**DĪG'ITĀTE-VEINED**, see **PALMATELY-VEINED**.

**DĪG'ITĪFŌRM**, see **DIGITATE**.

**DĪG'ITĪNĒRVED**, see **PALMATELY-VEINED**.

**DĪG'ONOŪS**, two-angled, as the stems of some cacti.

**DĪG'YN'IAN**, see **DIGYNOUS**.

**DĪG'YNOŪS**, having two pistils, styles, or stigmas in a flower. Generally the same as **Dicarpelary**.

**DĪLĀMĪNĀ'TION**, see **CHORISIS**.

**DĪLĀT'ĒD**, expanded or widened.

**DĪM'EROŪS**, having the parts in twos, as two sepals, two petals, two stamens, and two pistils in a flower.

**DĪMĪD'ĪATE**, halved, or appearing as if one side or one half were wanting, as a leaf which

is developed on one side of the midrib only. Compare **OBLIQUE**. Applied also to the calyptra of mosses when divided along one side. The term is also applied to bodies which are actually halved or divided into two parts, and to those in which one side differs from the other in function.

**DĪMŌR'PHOŪS**, existing under two forms, as two forms of leaves, sterile and fertile, on one plant in ferns. Applied especially to heterogonous plants having two forms of flowers on separate individuals, one with long stamens and short styles and another with short stamens and long styles. Compare **TRIMORPHOUS**.

**DĪĒ'CIAN**, see **DICECIOUS**.

**DĪĒ'CIOŪS**, having stamens and pistils in separate flowers upon different individuals.

**DĪĒ'CIOŪSLŸ PŌLYG'AMOŪS**, when some of the flowers in dicecious plants are perfect. Each set of plants may have perfect as well as unisexual flowers, or one set may have all perfect flowers and the other all staminate or all pistillate; polygamo-dicecious.

**DĪ'ŌSMŌSE**, see **OSMOSE**.

**DĪPĒT'ALOŪS**, having two petals in a flower.

**DĪPHŸL'LOŪS**, two-leaved. Having two leaves, leaflets, or leaf-like parts. Sometimes used for **Disepalous**.

**DĪPLĀN'ĒTĪSM**, the property of being twice active with an intervening period of rest. It occurs in the zoöspores of certain genera of *Saprolegniæ* in which the zoöspores escape without cilia from the sporangium and come to rest in a

cluster each forming a cell-wall. After some hours of rest the protoplasm of each spore escapes from its cell-wall, acquires cilia, and enters upon a period of active movement.

**DÍP'LŌĒ**, see **MESOPHYLL**.

**DÍPLŌĜĒN'ĒSÍS**, the duplication of parts normally single.

**DÍPLŌPĒRÍS'TŌMOŪS**, said of the capsule in mosses when the peristome consists of a double row of teeth. Compare **APLOPERISTOMOUS**.

**DÍPLŌSTĒM'ŌNOŪS**, having the stamens in two whorls, those of each whorl equal in number to the petals, which are in one whorl. Compare **ISOSTEMOUS**.

**DÍPLŌTĒ'ĜIŪM** (pl. *Díplôtē'giā*), an inferior capsule, as in *Campanula*.

**DÍP'TĒROŪS**, two-winged.

**DÍREC'TION-ĈĒLLS**, see **POLAR CELLS**.

**DÍREC'TION-CŌR'PŪSCLES**, see **POLAR CELLS**.

**DÍRECT' MĒTÂMŌR'PHŌSÍS**, see **PROGRESSIVE METAMORPHOSIS**.

**DÍRECT' SŪPĒRPŌŠÍ'TION**, the situation of accessory buds in an axil above the leading bud or one first formed, as is usually the case in superposition. Compare **INVERTED SUPERPOSITION**.

**DÍRĒMP'TION**, see **DISPLACEMENT**.

**DÍSĀRTÍC'ŪLĀTE**, to separate at an articulation or joint, as most leaves in autumn.

**DÍSC**, see **DISK**.

**DÍS'ĈIFŌRM**, disk-shaped; flat and circular.

**DÍSCÍĜ'ĒROŪS**, disk-bearing, as the woody tissue of conifers.

**DÍS'CŌCĀRP**, an ascocarp in which the hymenium lies exposed while the asci are maturing, as in *Peziza*. The term has also been applied to fruits like the rose and fig, in which the receptacle is expanded and forms the main part of the fruit, enclosing the seeds or achenia.

**DÍSCŌID**, disk-shaped; flat and circular; belonging to the disk, as the central florets in a head of *Compositæ*.

**DÍS'CŌID FLOWĒR**, a head of flowers in *Compositæ* in which each flower is tubular.

**DÍS'CŌID MÁRK'ING**, see **BORDERED PIT**.

**DÍSCŌL'ŌR**, of more than one color; variegated; especially having the two surfaces of a leaf differing in color, as in the *begonias*. Compare **UNICOLOR** and **CONCOLOR**.

**DÍS'COŪS**, disk-shaped.

**DÍSCRĒTE'**, distinct; separate. Compare **CONCRETE**.

**DÍS'CŪS**, see **DISK**.

**DÍSĚP'ALOŪS**, of two sepals.

**DÍSK**, any flat, circular area: the central part of such an area or of any flat body as opposed to the border; *disc*. Especially (1) the central part of a head of flowers in *Compositæ*, generally bearing tubular florets only; (2) the portion of the receptacle of a flower between the stamens and pistil, often more or less dilated and serving as a nectary; (3) a circular bordered pit, as in *Coniferæ*; (4) the circular adhesive base (*retinaculum*) of a *pollinium*.

**DÍSK FLŌ'RĒT**, see **TUBULAR FLORET**.

**DÍSK' FLOWĒR**, see **TUBULAR FLORET**.

**DĪSK'-SHĀPED**, flat and more or less circular; discoid.

**DĪSLŌCĀ'TION**, see **DISPLACE-MENT**.

**DĪSŌPĒR'CŪLĀTE**, having lost the operculum or lid. Compare **DEOPERCULATE**.

**DĪSPLĀCE'MENT**, the situation of an organ out of its normal position; dislocation; diremp-tion.

**DĪSSĒCT'ĒD**, cut deeply into many lobes or divisions. Compare **LACINATE** and **DIVIDED**.

**DĪSSĒMĪNĀ'TION**, the natural dispersion of seeds.

**DĪSSĒP'IMENT**, one of the double walls separating the cells of a syncarpous ovary; septum. Compare **FALSE DISSEPI-MENT**.

**DĪSSĪL'IENT**, dehiscing with elastic violence, as the pod of *Impatiens*.

**DĪSSŌCĪĀ TION**, separation.

**DĪS'TAL**, pertaining to the apex or outer extremity. Compare **PROXIMAL**.

**DĪS'TANT**, having larger intervening spaces than usual. Opposed to **Dense** or **Approximate**.

**DĪS'TĪCHOŪS**, two-ranked, as the leaves of grasses. Applied also to leaves arranged like those of the fir, which are turned in two directions, though not inserted oppositely in the same plane. In this latter sense **Bifarious** is somewhat the better term.

**DĪSTĪNCT'**, when parts of the same kind are unconnected; opposed to **Coherent**. Compare **FREE**.

**DĪSTRĀC'TILE**, widely separated. Applied mainly to anthers in which the connective is developed so as to keep the lobes wide apart, as in *Salvia*.

**DĪTRĪCHŌT'ŌMOŪS**, dividing into two or three branches.

**DĪŪR'NAL**, said of flowers which open in the day and close at night.

**DĪŪR'NAL SLEEP**, see **PARAHE-LIOTROPISM**.

**DĪVĀR'ICĀTE**, diverging at a wide angle.

**DĪVĒR'GENCE**, see **ANGLE OF DIVERGENCE**.

**DĪVĒRSĪFLŌ'ROŪS**, having flow-ers of two or more forms.

**DĪVĪD'ĒD**, having incisions ex-tending to the midrib. Com-pare **CLEFT** and **PARTED**.

**DŌDĒCĀG'YNOŪS**, having twelve pistils.

**DŌDĒCĀM'ĒROŪS**, having the floral organs in twelves; 12-merous.

**DŌDĒCĀN'DROŪS**, having twelve stamens.

**DŌDĒCĀPĒT'ĀLOŪS**, having twelve petals.

**DŌLĀB'RĪFŌRM**, having the form of an axe or hatchet, as the leaves of *Mesembryanthemum dolabriforme*.

**DŌMĒS'TICĀTĒD**, introduced and found to thrive and repro-duce itself under cultivation. It does not necessarily imply any change of character.

**DŌR'MANT BŪD**, one which is poorly developed and which under ordinary circumstances will not grow into a branch. Often the first-formed buds on a season's growth are of this character; latent bud.

**DŌR'MANT STĀTE**, the condition of a living plant during win-ter, or other definite period of cessation from active growth; latent period.

**DŌR'SAL**, pertaining to the back, or situated upon the back. The dorsal surface of a leaf or other foliar organ is the anterior,

- outer, or normally lower surface. Some botanists, however, apply the term dorsal to the upper surface. Compare VENTRAL.
- DÔR'SAL SŪ'TŪRE**, one situated at the midrib of the carpellary leaf.
- DÔRSÍCŪM'BENT**, see SUPINE.
- DÔRSĪF'ĒROŪS**, bearing the fruit upon the back, as the spores of many ferns; dorsiparous.
- DÔRSĪP'ĀROŪS**, see DORSIFEROUS.
- DÔRSĪVĒN'TRAL**, having a distinct front and back, as leaves.
- DÔR'SŪM**, the back of any organ: the outer or lower surface of leaves or parts of a flower. See also DORSAL.
- DÔR'TŶ**, (Hort.), delicate; difficult to cultivate. (Rare.)
- DÔT'TĒD**, see PUNCTATE.
- DÔT'TĒD DŪCT**, see PITTED VESSEL.
- DOŮB'LE**, having more than one whorl of petals. A flower is completely double when all the essential organs are replaced by petals.
- DOŮB'LY-CÔM'POUND**, twice compound, as bipinnate or bipalmate.
- DOŮB'LY-CRĒ'NĀTE**, having the crenatures or teeth of a crenate leaf again crenate.
- DOŮB'LY-DĒN'TĀTE**, having the teeth of a dentate leaf dentate. Compare BIDENTATE.
- DOŮB'LY-PĪN'NĀTE**, see BIPINNATE.
- DOŮB'LY-SĚR'RĀTE**, having small serratures upon the large ones, as in the elm. Compare BISERRATE.
- DOŮB'LY-TĚR'NĀTE**, see BITERNATE.
- DOŮB'LY-TÔÔTHED**, having the teeth themselves toothed, as in Doubly-dentate.
- DOWN**, soft short pubescence.
- DOWN'Ŷ**, having a dense covering of short weak hairs.
- DRAWN**, elongated by absence of light, as plants which are crowded together.
- DRĚP'ĀNĪFÔRM**, see FALCATE.
- DRŌOP'ING**, inclining downward more than cernous and less than pendent or pendulous.
- DRŮPĀ'ĈEOŪS**, like, or pertaining to, a drupe; producing drupes, as *drupaceous* trees.
- DRŮPE**, a stone-fruit, as the peach, almond, and cherry. It consists of one carpel, with usually a single seed surrounded by a thickened bony endocarp called the pit or stone.
- DRŮ'PEL**, a very small drupe, as the so-called seeds of the blackberry.
- DRŮPE'LĚT**, see DRUPEL.
- DŮ'BĪOŪS**, doubtful.
- DŪCT**, see VESSEL.
- DŮL'CĪS**, devoid of acidity: sweet.
- DŮMÔSE'**, having the form of a bush or low compact shrub.
- DŮ'MŪS**, see BUSH.
- DŮ'PLĪCĀTE**, doubled or folded.
- DŮ'PLĪCĀTE-CRĒ'NĀTE**, see DOUBLY-CRENATE.
- DŮ'PLĪCĀTE-DĒN'TĀTE**, see DOUBLY-DENTATE.
- DŮ'PLĪCĀTE-SĚR'RĀTE**, see DOUBLY-SERRATE.
- DŮRĀ'MĚN**, heart-wood; the central portion of the trunk of most exogens, consisting of wood of darker color and denser texture than the outer newer layers, and possessing

the characteristic color of the species.

**DWARF**, habitually attaining much less than the ordinary size of related species or varieties; nanus. Compare **HUMILIS** and **DEPAUPERATE**.

**DWARF MÅLES**, very small individuals in *Œdogoniae*, originating from special swarm-spores called androspores, and producing only antherozoids.

**DYÅS'TĒR**, a stage of karyokinesis succeeding the monaster or mother-star stage and ending with the formation of the daughter-skeins. During this stage the chromatic filaments are grouped about the poles, the two groups (asters) being more or less united by the spindle fibres or conjunctive threads. See **DAUGHTER-STAR**.

**Ē-** or **ĒX-**, a prefix meaning destitute of, outside of, or away from.

**ĒAR**, a prominent lobe, as those at the base of the leaf in sorrel (*Rumex acetocella*).

**ĒARED**, see **AURICULATE**.

**ĒBĒ'NĒOŪS**, black like ebony.

**ĒBRÅC'TĒÅTE**, without bracts.

**ĒBŪR'NĒOŪS**, ivory-white.

**ĒCÅL'CÅRÅTE**, without a spur.

**ĒCÅU'DÅTE**, without a tail or tail-like appendage.

**ĒCBLÅSTĒ'SIS**, the production of buds within a flower in consequence of lateral proliferation.

**ĒCCĒN'TRĪC**, out of the centre or axis; not having the same centre; when the centre or axis of growth does not coincide with that of the mass, as in most starch-grains, or in trees which develop more rapidly on one side than on the other.

**ĒCH'ĪNÅTE**, spiny or prickly.

**ĒCHĪN'ŪLÅTE**, diminutive of Echinate; having small prickles.

**ĒCĪD'IŪM**, see **ÆCIDIUM**.

**ĒCŌNŌM'IC BŌT'ANŸ**, the classification of useful and injurious plants, and the study of all botanical questions having a practical bearing. See **AGRICULTURAL BOTANY**.

**ĒCŌS'TÅTE**, without a rib.

**ĒCTŌGĒ'NĪC**, capable of living outside of an animal body. Said of certain disease-producing organisms, as the bacillus of anthrax.

**ĒC'TŌPLÅŠM**, a hyaline layer of protoplasm free from granules next to the cell-wall; hyaloplasm.

**ĒC'TŌSPŌRE**, see **BASIDIOSPORE**.

**ĒCTŌSPŌROŪS**, see **EXOSPOROUS**.

**ĒCTŌTHĒ'CAL**, gymnocarpous, as applied to Ascomycetes. (Rare.)

**ĒDĒN'TÅTE**, without teeth, as an entire leaf.

**ĒDGED**, see **MARGINATE**.

**ĒFFĒTE'**, exhausted; no longer productive or fruitful; past the bearing age.

**ĒFFLŌRĒS'ÇENÇE**, the time or act of flowering.

**ĒFFŪSE'**, spreading loosely, especially on one side, as the panicle of *Juncus effusus*. Compare **DIFFUSE** and **SECUND**.

**ĒGG-ÅPPÅRÅ'TŪS**, a group of three nucleated bodies at the upper end of the embryo-sac, which together with the upper polar nucleus correspond with the antipodal cells. The central deeper cell of the egg-apparatus becomes the oösphere, the others form the elongated

synergidæ; germinal apparatus.

**ĚGG ČĚLL**, see OÖSPHERE.

**ĚFUL'CRATE**, said of buds from below which the leaf has fallen. (Rare.)

**ĚGLÁN'DULOSE**, without glands.

**Ě'GRĚT**, see AIGRET.

**ĚIS'ODAL**, anterior. Applied to the outer or anterior part of the opening of a stoma. Compare OPISTHODAL.

**ĚJĚC TION**, throwing out with force, as spores from a sporangium or seeds from a pod. Compare ABJECTION.

**ĚLĀBŌRĀ'TION**, a term applied to the changes which take place in plant-food after it is absorbed, to prepare it for the use of the plant. Compare ASSIMILATION and METASTASIS.

**ĚL'ĀTĚR**, a term for various elastic, usually spiral, bodies which serve for the dispersion of spores, as those in the capsules of mosses and liverworts and those attached to the spores of Equisetum.

**ĚLĀTĚ'RIŮM**, a term sometimes applied to fruits which discharge their seeds by means of elastic carpels, as in certain Euphorbias; regma.

**ĚLEŮTHĚRŌPĚT'ĀLOŮS**, see APOPETALOUS.

**ĚLEŮTHĚRŌPHŮYL'LOŮS**, see APOPHYLLOUS.

**ĚLEŮTHĚRŌSĚP'ĀLOŮS**, see APOSEPALOUS.

**ĚLLĪPSŌID'AL**, nearly elliptical in outline.

**ĚLLĪP'TĪCAL**, oblong, and rounded at the ends; longer than oval.

**ĚLLĪP'TĪC-LĀN'ČĚŌLĀTE**, intermediate between elliptical and

lanceolate, but approaching the latter.

**ĚLŌČ'ŮLAR**, see UNILOCULAR.

**ĚLŌN'GĀTĚD**, exceeding the usual or average length.

**ĚLŮT'RĪFŌRM**, resembling the wing-cover of a beetle; ely-troid.

**ĚMĀR ČĪD**, flaccid; wilted. (Obs.)

**ĚMĀR'ĜĪNĀTE**, notched at the end. Sometimes applied to organs which are notched at other places, as to the gills of mushrooms when notched or cut out before reaching the stem.

**ĚMBŌSSED'**, see UMBONATE.

**ĚMBRĀC'ĪNG**, clasping by a broad surface. Compare AMPLECTANT and SHEATHING.

**ĚM'BRŮŮ**, the rudimentary plant within the seed.

**ĚM'BRŮŮ-BŮD**, a rudimentary bud, especially if adventitious.

**ĚM'BRŮŮ-ČĚLL**, see OÖSPHERE.

**ĚMBRŮŮĜĚN'ĪC**, pertaining to the development of an embryo.

**ĚMBRŮŮĜ'ENŮ**, embryo-formation.

**ĚMBRŮŮĹ'ŌĜŮ**, the study of the embryo and its development.

**ĚM'BRŮŮNAL ČĚLL**, see OÖSPHERE.

**ĚM'BRŮŮNAL VĚS'ĪCLE**, see OÖSPHERE.

**ĚM'BRŮŮNĀTE**, having an embryo.

**ĚMBRŮŮN'ĪC**, in an early undeveloped condition; rudimentary.

**ĚM'BRŮŮ NŌD'ŮLE**, a term applied to small knots, frequently about the size of a pea, found beneath the bark in certain trees, and sometimes containing one or more rudimentary buds.

**ĚMBRYŮŇ'IC SĀC**, see EMBRYO-SAC.

**ĚMBRYŮŇ'IC VĚS'ICLE**, see OÖSPHERE.

**ĚM'BRŮ-SĀC**, a large cell in the nucleus of the ovule within which the germinal vesicles or oöospheres (one or more) are produced, and which finally contains the embryo. Compare CENTRAL CELL.

**ĚMBRYŮTE'ĜIĀ** (pl.), see EMBRYOTEGIUM.

**ĚMBRYŮTE'ĜIŮM** (pl. ĚmbrŮ-tĕ'ĝiĀ), a small cap covering the micropyle in certain seeds, as asparagus, and detached by the radicle in germination.

**ĚMĚR'ĜENČIES**, a term applied to outgrowths of various kinds derived from the fundamental tissue below the epidermis, and covered by the latter, as the prickles of the rose.

**ĚMĚR'ĜENT**, protruding through or elevated above surrounding parts.

**ĚMĚRSED'**, raised out of water.

**ĚMPĀLE'MENT**, an old term for calyx.

**ĚMP'TŮ GLŮMES**, one, two, or more bracts or scales subtending a spikelet in grasses, and enclosing one or more flowers; outer glumes. Formerly called merely glumes. Compare FLOWERING GLUME.

**ĚNĀŇTIŮBLĀS'TIC**, a term sometimes applied to the embryo of orthotropous seeds. Compare HOMOBLASTIC.

**ĚNĀ'TION**, having outgrowths or excrescences the result of excessive development, as scales upon petals. Compare CHORISIS.

**ĚNCHŮLĚ'MĀ**, the unorganized proteids in living cells, as aleurone grains. (Hanstein.)

**ĚNČŮS'TĚD**, enclosed in a cyst or sac. Applied, for example, to a stage of growth in Proto-coccaceæ in which the individual exists as a free cell with a cell-wall, but destitute of cilia.

**ĚNDĚCĀĜ'ŮNOŮS**, having eleven pistils or styles.

**ĚNDĚCĀŇ'DROŮS**, having eleven stamens.

**ĚNDĚCAPHŮL'LOŮS**, said of a leaf containing eleven leaflets.

**ĚNDĚM'IC**, occurring in the one limited locality or region only. Compare SPORADIC.

**ĚNDŮBĀSĪD'ŮM**, an enclosed basidium, as in Gasteromycetes.

**ĚŇ'DŮCĀRP**, the inner layer of a pericarp, particularly if developed in a special manner, as the pit of a peach or core of an apple.

**ĚŇ'DŮCHRŮME**, coloring matter in cells, or colored cell-contents aside from chlorophyll—used mainly in algæ. Often applied to the entire cell-contents of algæ, and sometimes to colored cell-contents in other plants, but less used now than formerly.

**ĚNDŮDĚR'MIS**, a layer, of one or more cells in thickness, which forms the inner boundary of the cortex and surrounds the fibrovascular cylinder.

**ĚNDŮĜ'ĚNOŮS**, produced within another body. Applied also to the stems of monocotyledons and their manner of growth, which was formerly supposed to take place chiefly at or near the centre.

**ĚNDŮĜ'ĚNOŮS ČĚLL-FŮRMA'TION**, see FREE CELL-FORMATION.

**ĚNDŌGŌNĪD'ĪŮM**, a goudium formed within a receptacle, as in the sporangium of *Mucorini*.

**ĚNDŌPĚRĪD'ĪŮM**, the inner peridium when there are more than one, as in *Geaster*.

**ĚNDŌPHLĚ'ŮM**, inner bark; liber. See **BAST**.

**ĚNDŌPHŮL'LOŮS**, enclosed in a leaf or sheath, as the young leaves of monocotyledons.

**ĚN'DŌPHŮTAL**, growing within other plants; entophytal.

**ĚN'DŌPHŮTE**, a plant which grows within another, either parasitic upon it or not; entophyte.

**ĚN'DŌPLĀSM**, the internal granular portion of the protoplasm; when distinguished from an outer layer free from granules called *Ectoplasm*.

**ĚNDŌPLEŮ'RĀ**, see **TEGMEN**.

**ĚNDŌP'TĪLE**, an old term applied to the plumule of endogens.

**ĚNDŌRHĪ'ZĀ** (pl. *Ěndŏrhī'zæ*), an old term for endogen.

**ĚNDŌRHĪ'ZAL**, said of an embryo in which the radicle is sheathed by the cotyledons wrapped around it. Applied also to the method of germination in endogens.

**ĚNDŌRHĪ'ZOŮS**, see **ENDORHIZAL**.

**ĚN'DŌSMŌSE**, an inward current established between fluids of different densities when separated by an animal or vegetable membrane; endosmosis. The absorption of moisture by roots is due to endosmose. See **OSMOSE**.

**ĚNDŌSMŌ'SĪS**, see **ENDOSMOSE**.

**ĚN'DŌSPĚRM**, the albumen of the seed, especially when

formed in the embryo-sac. Compare **PERISPERM**.

**ĚN DŌSPŌRE**, the inner coat of a spore.

**ĚN'DŌSTŌME**, the orifice of the inner coat of the ovule, i.e., the inner portion of the foramen. Compare **EXOSTOME**.

**ĚNDŌTHĚ'ČĪŮM**, the lining (tapetum) of an anther cell, consisting of one or more layers within the exothecium.

**ĚNDŌZŌ'ĪC**, living inside an animal; entozoic.

**ĚNNĚĀG'ŸNOŮS**, having nine pistils or styles.

**ĚNNĚĀN DRĪAN**, see **ENNEANDROUS**.

**ĚNNĚĀN'DROŮS**, having nine stamens.

**ĚNNĚĀPĚT'ALOŮS**, having nine petals.

**ĚNNĚĀSĚP'ALOŮS**, having nine sepals.

**ĚNNĚĀSPĚR'MOŮS**, nine-seeded.

**ĚNŌ'DAL**, without nodes.

**ĚN'SĀTE**, see **ENSIFORM**.

**ĚN'SĪFŌRM**, sword-shaped; straight, or nearly so, two-edged, and tapering very gradually from base to apex, as the leaves of iris; gladiate.

**ĚNTĪRE'**, having margins destitute of teeth or notches.

**ĚNTŌMŌG'ĚNOŮS**, growing upon insects, as certain fungi; entomophytous.

**ĚNTŌMŌPH'ĪLOŮS**, adapted to pollination by insects.

**ĚNTŌMŌPH'ŸTOŮS**, see **ENTOMOGENOUS**.

**ĚNTŌPĀR'ĀSITE**, a parasite living entirely within its host.

**ĚN'TŌPHŮTAL**, see **ENDOPHYTAL**.

**ĚN'TŌPHŮTE**, see **ENDOPHYTE**.

**ĚNTŌZŌ'ĪC**, see **ENDOZOIC**.

**ĚN'VĚLOPE-ĀPPĀRĀ'TŪS**, all of the ascocarp except the ascus-apparatus.

**ĚPĀN'ŌDŸ**, a general term for reversion from an irregular to a regular condition. In flowers it is termed "regular perioria."

**ĚPĀN'THOŪS**, growing upon flowers, as certain fungi.

**ĚP'ĚN**, see EPENCHYMA.

**ĚPĚN'CHŸMĀ**, cambium, and all tissue arising from it. (Nägeli.) Compare PROTENCHYMA.

**ĚPHĚM'ĚRAL**, lasting but a day or a very short time, as the corolla of purslane.

**ĚP'IBLĀST**, a term applied to a small scale-like appendage in front of the embryo and opposite the scutellum in the seeds of rice and many other grasses. (F. L. Scribner.)

**ĚPIBLĚ'MĀ**, a collective name for the epidermal cells of a young organ, especially a root, including the root-hairs. (Obs.) See EPIDERMIS and DERMATOGEN.

**ĚP'ICĀ'LŸX**, an involucre resembling an exterior calyx, as in mallow.

**ĚP'ICĀRP**, the outer layer of a pericarp.

**ĚP'ICHĪL**, see EPICHILIUM.

**ĚP'ICHĪLE**, see EPICHILIUM.

**ĚP'ICHĪL'IŪM**, the upper or distal portion of the labellum of an orchid, when especially different from the lower or basal portion. Compare HYPOCHILIUM.

**ĚP'ICLĪ'NAL**, seated upon the receptacle.

**ĚP'ICŌR'MĪC**, applied to side branches which develop on the body of a forest tree from

which surrounding trees have been removed.

**ĚP'ICŌRŌL'LĪNE**, upon the corolla.

**ĚP'ICŌT'ŸL**, the portion of a young stem between the cotyledons and the lowest true leaves. Compare CAULICLE.

**ĚP'IDĚRM**, see EPIDERMIS.

**ĚP'IDĚR'MAL**, pertaining to the epidermis.

**ĚP'IDĚR'MĪS**, the external layer of cells in a plant. Compare CUTICLE and DERMATOGEN.

**ĚP'IDĚRMOĪDAL LĀY'ĚR**, a term sometimes applied to an outer layer of cortical cells bordering on the epidermis.

**ĚP'IGĀ'AN**, upon or above ground; growing on land in distinction from water; growing close to the earth, as some leaves; rising above ground instead of remaining beneath, as the cotyledons of beans; epigæous.

**ĚP'IGĒ'AL**, see EPIGÆAN.

**ĚP'IGĚN'ĚSĪS**, (1) originating upon another body; (2) the theory that the embryo is the joint product of both sexes, as distinguished either from the doctrine that the male parent furnishes the germ and the female simply the *nidus* or resting-place in which it is nourished, or from the theory that the female furnishes the germ which is merely quickened by the influence of the male. Seldom used in botany.

**ĚP'IGĒNOŪS**, growing upon the surface or on the upper surface, as a fungus on its host. Compare HYPOGENOUS and EDOGENOUS.

**ĚP'IGĒ'OŪS**, see EPIGÆAN.

**ĚP'IGŌNE**, see EPIGONIUM.

**ĚPÍGŌNĪŮM**, the archegonium in mosses after the capsule has developed. It is frequently ruptured, a part being carried up to form the calyptra, and a part remaining at the base of the sporangium or its stalk, as the vaginule. Also an homologous sac enclosing the young sporangium in Hepaticæ.

**ĚPÍG'YNOŮS**, growing upon the ovary.

**ĚPĪNAS'TĪC**, denoting curvature resulting from growth on the upper side of an organ making it curve downward. Compare **HYPONASTIC**.

**ĚP'INĀSTŮ**, that state of a growing dorsi-ventral organ in which the upper surface grows more rapidly than the lower.

**ĚPĪPĚT'ALOŮS**, upon the corolla.

**ĚPĪPHLĚ'ŌDAL**, upon the epidermis or outer surface. Compare **HYPOPHLĚODAL**.

**ĚPĪPHLĚ'ŮM**, see **CORKY LAYER**.

**ĚP'ĪPHRĀGM**, a membrane closing the mouth of the capsule in mosses; also a delicate membrane closing the cup-like sporophore in *Nidularia*.

**ĚPĪPHŮL'LOŮS**, growing or inserted upon a leaf, or upon the upper side. Compare **HYPOPHYLLOUS**.

**ĚP'ĪPHŮTAL**, see **EPİPHYTIC**.

**ĚP'ĪPHŮTE**, a plant growing upon another but not nourished by it; air-plant. Compare **PARASITE**.

**ĚPĪPHŮT'ĪC**, growing upon another plant but not nourished by it; epiphytal; pseudo-parasitic.

**ĚPĪPHŮTŌT'ĪC**, a term applied by Erwin F. Smith to any wide-spreading disease among plants, corresponding to an

epidemic among men or an epizootic among animals.

**ĚP'ĪPLĀŠM**, protoplasm which remains in an ascus or other unicellular sporangium after the formation of the spores.

**ĚPĪP'TĚROŮS**, winged at the apex.

**ĚPĪRRHĚŌL'ŌGŮ**, the portion of physiological botany which treats of the effects of external agents on living plants. (Rare.)

**ĚPĪRRHĪZOŮS**, growing upon roots.

**ĚP'ĪSPĚRM**, the seed-coat, especially the outer coat or testa.

**ĚPĪSPŌRĀN'GIŮM**, an old term for indusium.

**ĚP'ĪSPŌRE**, the outer coat of a spore; exospore.

**ĚPĪSTRŌPHĚ**, said of chlorophyll-bodies when they take their position along the outer wall of the cell, usually when the light is of medium intensity. Compare **APOSTROPHE** and **SYSTROPHE**.

**ĚPĪTHĀL'LĪNE**, growing upon the thallus.

**ĚPĪTHĚ'LĪŮM**, any distinct layer of one or more cells in thickness bounding an internal cavity. Formerly applied also to delicate epidermis of rootlets and other external parts.

**ĚPĪX'ŮLOŮS**, growing upon wood, as many fungi.

**ĚPĪZŌ'ĪC**, growing upon living animals, either parasitic or not.

**ĚQUAL**, symmetrical; regular; of the same number; like another in all respects, or in length.

**ĚQUALŮ - PĪN'NĀTE**, see **ABRUPTLY-PINNATE**.

**ĚQUĀTŌ'RĪAL PLĀNE**, the plane which passes through the equa-

torial plate (mother-star) of the cell-nucleus, or between the parts when the plate has divided, and which occupies the position of the future cell-wall. It is the plane of cell-division.

**ĒQUĀTŌRĪAL PLĀTE**, see MOTHER-STAR.

**ĒQUĪLĀT'ĒRAL**, equal-sided; opposed to Oblique.

**ĒQUĪNŌC'TIAL**, said of flowers which open and close at particular hours of the day.

**ĒQ'UITANT**, having the leaves so arranged that the base of each is enclosed within the opposite base of that which is next below it, as in the iris. Compare HALF-EQUITANT.

**ĒQUĪVĀL'VŪLAR**, having the valves of a capsule all of the same size.

**ĒQUĪV'OCAL ĠĒNĒRĀ'TION**, see SPONTANEOUS GENERATION.

**ĒRĀDĪC'ŪLŌSE**, without rootlets or rhizoids.

**ĒRĒCT'**, perpendicular, or nearly so, to the surface to which it is attached; standing without support, not weak or lax. Compare STRICT. Applied to ovules or seeds it means growing vertically from the base of the ovary. Compare ASCENDING and INVERTED.

**ĒRĒCTŌPĀT'ENT**, intermediate between erect and spreading.

**ĒRĒ'MŌBLĀST**, a unicellular plant. (Sachs.)

**ĒRĪĀN'THOŪS**, woolly-flowered.

**ĒRĪCĀ'ĠEOŪS**, heath-like.

**ĒR'ICŌID**, ericaceous. Said of a subulate form of leaves often found upon the juniper.

**ĒRĪŌPHŪL'LOŪS**, woolly-leaved.

**ĒRŌ'DĒD**, see EROSE.

**ĒRŌSE'**, having irregular sinuses as if bitten out; eroded.

**ĒRŌS'TRĀTE**, without a beak.

**ĒRŪM'PENT**, breaking out, as the spore clusters of some fungi through the epidermis of their host.

**ĒRŪTH'RŌPHŪL**, red coloring matter in plants.

**ĒS'CŪLENT**, used for food by man.

**ĒSĒP'TĀTE**, without septa.

**ĒSŌTĒR'IC**, originating within the organism. Compare EXOTERIC.

**ĒSSĒN'TIAL CHĀR'ĀCTĒR**, a feature which distinguishes a plant or group of plants from all others; diagnostic character.

**ĒSSĒN'TIAL ŌR'GANŌ**, stamens and pistils.

**ĒSTĪ'VAL**, pertaining to summer; æstival.

**ĒS'TĪVĀTE**, to pass the summer in a dormant condition. Compare HIBERNATE.

**ĒSTĪVĀ'TION**, (1) the arrangement of the floral organs in the bud—usually written Æstivation; (2) passing the summer in a dormant condition.

**ĒTĒ'RĪŌ**, a term sometimes applied to such fruits as the raspberry and blackberry.

**Ē'TĪŌLĀTĒD**, blanched by exclusion of light. Compare CHLOROSIS.

**ĒŪĠŸC'LĪC**, applied by Braun to flowers having the members in each whorl equal in number and alternating with those in an adjoining whorl.

**ĒŪ'PHŪLL**, an ordinary foliage-leaf. See PHYLLOME.

**ĒŪTRŌP'IC**, twining or turning with the sun; dextrorse.

**ĒVĀLV'ŪLAR**, without valves.

**ĖVANĖS'CENT**, (1) soon passing away; (2) applied to veins which disappear before reaching the margin of the leaf.

**ĖVEN-PIN'NĀTE**, see **ABRUPTLY-PINNATE**.

**ĖVĖRGREEN**, having green leaves throughout the year, as most *Coniferæ*.

**ĖVĖRLĀSTING FLOWĖRS**, see **IMMORTELLÉS**.

**ĖVĖR'NĪĖFĖRM**, resembling the thallus of the lichen *Evernia*.

**ĖVĖR'SION**, the protrusion of a part which is generally produced in a cavity.

**ĖVĖRT'ĖD**, turned inside out.

**ĖVĖDENT**, distinctly visible.

**ĖVĖT'TĀTE**, without vittæ, which see.

**ĖVĖLŪ'TION**, the act of unfolding or unrolling; hence growth or development, especially the supposed development through successive generations of the higher from lower or simpler forms of life, both in animals and plants.

**ĖXĀLBŪ'MINOŪS**, having the nutriment in the seed all stored in the cotyledons.

**ĖXĀN'NŪLĀTE**, without an annulus.

**ĖXĀR'ĪLLĀTE**, without an aril.

**ĖXĀS'PĖRĀTE**, covered with short hard points; muricate.

**ĖXCĖN'TRĪC**, out of the centre; abaxial. An embryo is *excentric* when it lies within the albumen, but not in the centre of it, as in asparagus; the trunk of a tree is *excentric* when developed more on one side of the heart than on the other.

**ĖX'ĈIPLE**, see **EXCIPULUM**.

**ĖX'ĈIPŪLE**, see **EXCIPULUM**.

**ĖXĈIP'ŪLŪM**, the portion of the thallus supporting or surround-

ing the apothecium in lichens. In some cases the excipulum is an outer rim of the perithecium itself, and is then termed a "proper" excipulum.

**ĖXĈĪTĀBĪL'ĪTŸ**, the general faculty, characteristic of living bodies, of being influenced by external stimuli. Compare **ĪRRITABILITY**.

**ĖXCRĖS'CENT**, growing out in a morbid or unnatural manner, as a wart or tumor; superfluous.

**ĖXCRĖ'TION**, the separation of unassimilable matter from an organism. Compare **SECRE'TION**.

**ĖXCŪR'RENT**, projecting beyond the usual limit, or to the extreme summit or apex.

**ĖXFĖLIĀTE**, to cast off layers or plates, as the bark of sycamore.

**ĖXHĀLĀ'TION**, see **TRANSPIRATION**.

**ĖXĪG'ŪOŪS**, small or slender. See **GRACILE**.

**ĖX'ĪNE**, see **EXTINE**.

**ĖXĪN'TĪNE**, a term applied by Fritsche to a third coat observed by him in the covering of certain pollen-grains between the intine and a second coat called by him the intexine. The terms Intexine and Exintine are not in ordinary use and do not represent any constant recognized structures.

**ĖX'ŖCĀRP**, the outer layer of a pericarp.

**ĖXŖG'ĖNOŪS**, growing by addition to the outside, or springing from the exterior tissues. Applied also to the manner of growth of the stem in ordinary trees (dicotyledons and gymnosperms).

**ĖXŖG'ŸNOŪS**, having the style exerted beyond the corolla.

**ĖXŌPĖRĪD'ĪŪM**, the outer peridium when there are more than one, as in Geaster.

**ĖXŌRHĪ'ZĀ** (pl. Ėxŏrhĭ'zæ), an old term for exogen. Compare ENDORHIZA.

**ĖXŌRHĪ'ZAL**, the manner in which the radicle of dicotyledons is developed in germination. (Rare.)

**ĖX'ŌSMŌSE**, the passage of gases or liquids through a closed membrane from within outward, or from the denser to the rarer fluid in the process of osmose.

**ĖX'ŌSPŌRE**, see EPISPORE.

**ĖXŌSPŌ'RĪŪM**, see EPISPORE.

**ĖX'ŌSTŌME**, the orifice in the outer coat of an ovule or seed, which with the endostome forms the foramen.

**ĖXŌSTŌ'SĪS**, any indurated protuberance.

**ĖXŌTĒ'ĪC**, having its cause or origin outside the organism. Compare ESOTERIC.

**ĖXŌTHĒ'ĖĪŪM**, the outer coat or epidermis of an anther. Compare ENDOTHECIUM.

**ĖXŌT'ĪC**, introduced from a foreign country.

**ĖX'PLĀNĀTE**, spread or flattened out. Applied to a part usually rolled or folded. Compare COMPLANATE.

**ĖXSĖRT'ĖD**, protruding beyond the margin of a receptacle, as stamens beyond the corolla, or a panicle of a grass above the leaf-sheath.

**ĖXSĪCCĀ'TĀ** (pl. Ėxsiccā'tæ), a dried herbarium specimen; exsiccate.

**ĖX'SĪCCĀTE**, see EXSICCATA.

**ĖX'SĪCCĀTĖD**, dried; especially, collected and dried for preservation as a botanical specimen.

**ĖXSTĪP'ŪLĀTE**, without stipules.

**ĖXSŪC'COŪS**, destitute of juice.

**ĖXTĖ'RĪOR**, when applied to the parts of a flower, means the same as Anterior, i.e., the side away from the axis; lower; outer.

**ĖX'TĪNE**, the outer coat of a pollen-grain. (Exine of Schacht.) Compare INTINE.

**ĖX'TRĀ-ĀX'ĪLLĀRĪ**, situated out of the axil.

**ĖX'TRĀ-ĖĖL'LŪLAR**, outside of a cell.

**ĖX'TRĀ-FŌLĪĀ'ĖEOŪS**, not situated upon or near the leaves, as *extra-foliaceous* prickles.

**ĖXTRĀVĀG'ĪNAL**, applied to branches in grasses which in growth burst through the base of the subtending sheath. Compare INTRAVAGINAL.

**ĖXTRŌRSE'**, applied to anthers the lobes of which are situated on the outside of the filament or connective, i.e., on the side farthest removed from the pistil. Such anthers generally dehisce on the outside also.

**ĖXŪNGŪIC'ŪLĀTE**, without an unguis or claw, as most petals.

**ĖXŪ'VĪĖ**, anything excreted or cast off. (Rare.)

**ĖYE** (Hort.), a bud on a tuber; the cavity enclosed by the calyx in the apple; the ostium or opening in the apex of a fig; any conspicuous central spot in a flower or petal, including the disk in Compositæ.

**FĀĖE**, the upper, inner, or free surface of an organ as opposed to the back.

**FĀ'ĖĪĖS**, the general aspect of a plant. (Obs.) Compare HABIT.

- FĂC'ULTĂȚIVE**, occasional; incidental. Compare **OBLIGATE**.
- FĂC'ULTĂȚIVE PĂR'ĂSÎTE**, a plant (usually a saprophytic fungus) capable of passing through at least certain stages of its development as a parasite, but which does not always or necessarily do so.
- FĂC'ULTĂȚIVE SĂP'RŌPHÎTE**, a plant (usually applied to parasitic fungi) which is capable of living as a saprophyte during the whole or a part of its life.
- FĚC'ULĂ**, see **FECULA**.
- FĂL'CĂTE**, scythe-shaped, or sickle-shaped. Compare **UNCINATE**.
- FĂL'ÇIFŌRM**, see **FALCATE**.
- FALSE**, similar in appearance, but different in structure or origin; spurious. The same as the Greek pseudo-.
- FALSE DICHŌT'ŌMŸ**, any dichotomous appearance which does not arise from a terminal division of the main axis, as a dichasium.
- FALSE DÎSSĚP'IMENT**, one of the additional partitions in certain fruits which is not formed by the edges of carpels. False dissepiments frequently proceed from the dorsal suture.
- FALSE ÎNDŪȘÎUM**, a recurved margin of the frond in ferns covering the sporangia, as in the genus *Pteris*.
- FALSE RĂCĚME'**, see **HELICOID CYME**.
- FALSE PĂRĚN'CHŸMĂ**, see **PSEUDOPARENCHYMA**.
- FĂM'ÎLŸ**, the same as **ORDER**, which see, and in more familiar use. The term is also employed, especially among cryptogams, to indicate groups lower than the order. In horticulture it is sometimes used to indicate groups of related varieties, as the Duchess family among apples.
- FĂN'-SHĂPED**, like a fan in outline, especially if also plaited; flabelliform; flabellate.
- FĂN'-VEINED**, see **PALMATELY-VEINED**.
- FĂRC'TĂTE**, without vacuities; stuffed; obstructed; infarctate; infarcted; opposed especially to fistulose. Seldom used, the word solid or turgid being nearly always preferable. See **STUFFED**.
- FĂR'ÎNĂ**, starch. Formerly applied also to pollen.
- FĂR'ÎNĂ'ÇEOŪS**, containing starch, or of the texture of meal or flour.
- FĂR'ÎNŌSE**, covered with a white mealy powder.
- FĂR'ÎNŌSE**, n., a supposititious cellulose substance in starch-grains, which is not colored blue by iodine. Compare **GRANULOSE**.
- FĂS'ÇIĂ** [*făsh-ă-ă*] (pl. **Făs'çiăe**), a cross-band, especially of color. (Rare.)
- FĂS'ÇIĂTĚD**, (1) having broad parallel bands or stripes; (2) exhibiting fasciation, which see.
- FĂSÇIĂ'TION**, a monstrous flattened expansion of the stem, as in the garden cockscomb (*Celosia*).
- FĂS'ÇICLE**, a bundle, as the clustered leaves on the dormant branches or spurs of the larch; a bundle of tuberous roots, as in the dahlia; a fibrovascular bundle, especially if rudimentary; a close cyme, as in sweet-william; a bundle of herbarium specimens.

**FĀS'ČĪLED**, growing in tufts or clusters; fascicular; fasciculated.

**FĀSČĪC'ŪLAR**, see **FASCICLED**.

**FĀSČĪC'ŪLAR SÝST'ĒM**, see **FIBROVASCULAR SYSTEM**.

**FĀSČĪC'ŪLAR TĪS'SŪE**, see **FIBROVASCULAR TISSUE**.

**FĀSČĪC'ŪLĀTE**, see **FASCICLED**.

**FĀSČĪC'ŪLĀTĒD**, see **FASCICLED**.

**FĀSČĪC'ŪLŪS** (pl. **Fāscic'ūlī**), a dense cymose inflorescence, as in sweet-william; fascicle.

**FĀSTĪG'ĪATE**, having the branches close, parallel, and upright, as in Lombardy poplar. Sometimes erroneously used for flat-topped.

**FAUX** (pl. **Fau'çēs**), the throat or orifice of a gamopetalous or gamosepalous flower.

**FĀVĒL'LĀ** (pl. **Fāvél'læ**), a form of sporocarp in Florideæ, consisting of an irregular mass of spores embedded in more or less gelatinous material and without a distinct conceptacle. It may be seated upon the frond or more or less embedded in it, and is derived from one or from several contiguous cells. In the latter case, and also when embedded in the frond, it was formerly called a favellidium.

**FĀVĒ'OLĀTE**, see **ALVEOLATE**.

**FĀVŌSE'**, see **ALVEOLATE**.

**FĚATH'ĚR-VEINED**, see **PINNATELY-VEINED**.

**FĚATH'ĚŘŸ**, see **PLUMOSE**.

**FĚC'ŪLĀ**, any powdery farinaceous matter.

**FĚC'ŪLENT**, muddy; thick with sediment.

**FĚCŪNDĀ'TION**, see **FERTILIZATION**.

**FĚCŪN'DĪTŸ**, fertility; fruitfulness.

**FĚĎ'ĚR**, an outgrowth of the hypocotyl in the embryo of some genera of Gnetaceæ which serves for the absorption of the endosperm.

**FĚLT'ĚD-TĪS'SŪE**, hyphal tissue in which the filamentous cells are not regularly united, as in phenogams, but cross one another irregularly, and are often more or less grown together; tela contexta; spurious tissue. In its more consolidated forms it is known as pseudo-parenchyma.

**FĚ'MĀLE FLOWĚR**, one having pistils only; pistillate flower.

**FĚNĚS'TRĀTE**, having rather large openings like windows.

**FĚ'RĀL**, see **WILD**.

**FĚRRU'GĪNOŪS**, resembling iron-rust; brownish-red. For synonyms see **RUBIGINOSE**.

**FĚR'TĪLE**, producing fruit, or reproductive bodies of any kind; having pistillate or perfect flowers.

**FĚRTĪLĪZĀ'TION**, the process by which the pollen causes the ovule to develop as a seed. It is the essential feature of sexual reproduction of every kind, being the union of the male and female reproductive bodies. In some cases, and perhaps always, it consists in the coalescence of the nuclei of two cells of different nature and origin; fecundation; impregnation. See **CONJUGATION**.

**FĚŪ'ILLEMŌRT**, of the color of a faded leaf; filemot. (Rare.)

**FĚ'BER**, see **FIBRE**.

**FĚ'BRĚ**, any slender thread-like body of considerable strength; especially: (1) the slender fusiform cells of the inner bark, known as bast; (2) small slen-

der roots like those of grasses. Also applied to bodies of similar form which have no special strength, as the threads or filaments in a nucleus during cell-division.

**FĪ'BRĪL**, diminutive of Fibre; a small or secondary fibre.

**FĪBRĪL'LĀ** (pl. Fibril'lā), see FIBRIL.

**FĪBRĪLLŌSE**, diminutive of Fibrous; bearing fibrils or composed of small fibres.

**FĪBRĪLLŌSE MYĀCĒ'LĪŪM**, see FIBROUS MYCELIUM.

**FĪBROŪS**, composed wholly, or in large part, of fibres; separable into fibres.

**FĪBROŪS MYĀCĒ'LĪŪM**, mycelium in which the hyphæ form by their union elongated branching strands; fibrillose mycelium; mycelial strand.

**FĪBRŌ-VĀ'SAL BŪN'DLE**, see FIBROVASCULAR BUNDLE.

**FĪBRŌ-VĀ'SAL STRĪNG**, see FIBROVASCULAR BUNDLE.

**FĪBRŌVĀS'CŪLAR BŪN'DLE**, one of the characteristic elements in the stem of all flowering plants and the higher cryptogams. Isolated fibrovascular bundles form the "fibres" in the so-called pith of a corn-stalk, and the veins in leaves. Each bundle usually consists of two parts, xylem and phloem (which see), the whole often surrounded by a special layer of cells called the bundle-sheath.

**FĪBRŌVĀS'CŪLAR CŌRD**, a term applied by Strasburger to a fibrovascular bundle in monocotyledons, but not generally adopted.

**FĪBRŌVĀS'CŪLAR ČYL'ĪNDĚR**, a name given to the peculiar

fibrovascular system in the stem of Lycopodiaceæ. Sometimes used in exogens, especially in roots, where it is generally called "central cylinder."

**FĪBRŌVĀS'CŪLAR SŪS'TĚM**, the fibrovascular tissues of a plant taken together. In exogenous trees it includes the veins of the leaves, and all the material of the stem and branches, except the pith, medullary rays, and outer bark.

**FĪD'DLE-SHĀPED**, see PANDURIFORM.

**FĪL'AMENT**, the stalk of a stamen supporting the anther.

**FĪLĀMĚN'TOŪS**, slender and thread-like, or composed of filaments.

**FĪLĀMĚN'TOŪS MYĀCĒ'LĪŪM**, one composed of free hyphæ, which are at most loosely interwoven with one another, but without forming bodies of definite shape and outline; floccose mycelium.

**FĪLĀMĚN'TOŪS SPŌR'ŌPHŌRE**, see SIMPLE SPOROPHORE.

**FĪLĀ'RĪŌŪS**, see FILAMENTOUS.

**FĪL'ĚMŌT**, see FEUILLEMORT.

**FĪL'ĪCŌĪD**, fern-like.

**FĪL'ĪFŌRM**, thread-shaped; slender, round, and of equal thickness throughout. Compare CAPILLARY.

**FĪL'ĪFŌRM ĀPPĀRĀ'TŪS**, a homogeneous, strongly refractive, cellulose cap often found at the apex of each synergida, especially in monocotyledons.

**FĪLĪPĚN'DŪLOŪS**, hanging by a thread.

**FĪ'LŌSE**, terminating in a thread-like process.

**FĪM'BRĪĀ**, a fringe.

**FĪM'BRIĀTE**, fringed; bordered by lax, slender processes, generally larger than hairs.

**FĪM'BRIĀTE**, see FIMBRIATE.

**FĪMBRĪL'LĀTE**, diminutive of Fimbriate; having a very small or fine fringe; fimbrilliferous.

**FĪMBRĪLLĪF'ĒROŪS**, see FIMBRILLATE.

**FĪN'ĠĒRED**, see DIGITATE.

**FĪS'SĪLE**, capable of being split or divided.

**FĪS SION**, the division of an organ which is usually entire; that mode of cell-division in which the cell separates into two nearly equal portions.

**FĪSSIP'AROŪS**, reproducing by spontaneous division into two parts.

**FĪS'TŪLAR**, see FISTULOSE.

**FĪS TŪLĪFŌRM**, tubular.

**FĪS'TŪLŌSE**, hollow and cylindrical, or nearly so, as the stems of many grasses; fistular; fistulous. Used especially when the hollow is of considerable size, as in reeds.

**FĪS'TŪLOŪS**, see FISTULOSE.

**FLĀBĒL'LĀTE**, see FAN-SHAPED.

**FLĀBĒL'LĪFŌRM**, see FAN-SHAPED.

**FLĀC'CĪD**, unable to support its own weight. Compare LAX.

**FLĀĠĒL'LĀ**, pl., see FLAGELLUM.

**FLĀĠ'ELLĀRŸ**, pertaining to or caused by flagella, as the *flagellary* movements of certain zoöspores.

**FLĀĠ'ELLĀTE**, (1) bearing flagella; (2) flagelliform.

**FLĀĠĒL'LĪFŌRM**, long and supple like a whip-lash; flagellate.

**FLĀĠĒL'LŪM** (pl. *Flāġēl'lā*), any slender flexible process or

organ, as (1) a solitary long swinging process of protoplasm on certain zoöspores (a large cilium); (2) a similar appendage to the cells of many bacteria; (3) a young flexible shoot, especially a long trailing branch of a vine (sarment).

**FLĀT** (Hort.), in describing fruits, means flattened endwise (depressed).

**FLĀVĒS'ĠENT**, yellowish.

**FLĀ'VOŪS**, see FLAVUS.

**FLĀ'VŪS**, pure pale yellow; lemon-yellow. Compare LUTEUS.

**FLĒSH'Ÿ**, enlarged and somewhat soft, as a tuber. Compare SUCULENT.

**FLĒX'ŪŌSE**, zigzag; wavy; winding; flexuous.

**FLĒX'ŪOŪS**, see FLEXUOSE.

**FLŌAT'ING**, see NATANT.

**FLŌC'ĠĪ**, pl., see FLOCCUS.

**FLŌCCŌSE'**, covered with matted woolly hairs, especially if they fall away in tufts. Said of the perithecia of Erysiphe when the appendages are of equal diameter throughout, more or less tortuous, and end abruptly, or in a straight point (thus distinguished from "hooked" and "dichotomous").

**FLŌCCŌSE' MŸCĒ'LĪŪM**, see FILAMENTOUS MYCELIUM.

**FLŌC'CŪLENT**, see FLOCCOSE.

**FLŌC'CŪS** (pl. *Flŏc'ċī*), any woolly hair or thread, or a tuft of such filaments.

**FLŌ'RĀ**, the aggregate of the species of plants of a country or region, or a book which describes them.

**FLŌ'RAL**, pertaining to a flower.

**FLŌ'RAL DĪ'ĀGRĀM**, a drawing showing the relative position of the parts of a flower.

**FLŌ'RAL ĒN'VĒLŌPES**, in ordinary plants the calyx and corolla, sometimes including bracts when developed in a special manner so as to surround a flower; in grasses the flowering glume and palet.

**FLŌ'RAL GLŪME**, used by Dr. W. J. Beal instead of flowering glume or lower palet.

**FLŌ'RAL LĒAF**, see BRACT.

**FLŌRĒS'ÇENÇE**, the opening of flowers; blossoming; anthesis.

**FLŌ'RĒT**, an individual flower of a head or cluster, especially in Compositæ; floscule; flosculus; floweret.

**FLŌRĪF'ĒROŪS**, flower-bearing.

**FLŌRĪF'ĀROŪS**, floriferous; sometimes used when a proliferous branch or flower bears additional flowers instead of stems and leaves.

**FLŌS'CŪLAR**, see FLOSCULOUS.

**FLŌS'CŪLE**, see FLORET.

**FLŌS'CŪLŌSE**, see FLOSCULOUS.

**FLŌS'CŪLOŪS**, composed of or bearing florets: applied mainly to heads of flowers in Compositæ when composed of tubular florets only. Compare SEMIFLOSCULOUS.

**FLOW'ĒR**, the part of a plant immediately concerned in the production of seed. A complete flower in ordinary plants consists of pistils, stamens, corolla, and calyx, of which the two former are essential to the production of seed. The parts of a flower are modified leaves.

**FLOW'ĒR-BŪD**, an unopened flower or cluster of flowers.

**FLOW'ĒRĒT**, see FLORET.

**FLOW'ĒR-HĒAD**, see HEAD.

**FLOW'ĒRĪNG GLŪME**, the organ in grasses formerly called the lower palet. It may subtend one flower or more. Dr. W. J. Beal proposes the more appropriate term Floral Glume.

**FLŪ'ĪTANT**, floating in or upon water. Compare NATANT.

**FLŪ'VĪAL**, see FLUVIATIC.

**FLŪVĪĀT'IC**, belonging to flowing water; fluvial; fluviatile.

**FLŪ'VĪĀTĪLE**, see FLUVIATIC.

**FŌLD'ĒD**, (1) said of leaves in veneration when the two halves are simply brought together forward; (2) (Hort.) when a narrow projection of the flesh of an apple extends into the cavity. (Warder.) Compare LIPPED.

**FŌLĪĀ'ÇEOŪS**, leaf-like; having leaves intermixed with the flowers, as a *foliaceous* spike; consisting of thin laminæ or layers; foliose.

**FŌLĪĀ'ÇEOŪS THĀL'LŪS**, the thallus in lichens when flat and leaf-like and attached by one or few points; frondose thallus. Compare CRUSTACEOUS THALLUS.

**FŌLĪĀGE LĒAVES**, ordinary green leaves, in distinction from those which are transformed into petals, scales, etc.

**FŌLĪAR-TRĀÇE**, see LEAF-TRACE.

**FŌLĪĀ'TION**, the act of leafing out; frondescence. Sometimes used erroneously for prefoliation.

**FŌLĪF'ĒROŪS**, bearing or producing leaves; foliiferous; foliiparous.

**FŌLĪF'ĒROŪS**, see FOLIFEROUS.

**FŌ'LĪĪFŌRM**, leaf-shaped

**FŎLĪP'ĀROŪS**, producing leaves or leaves only.

**FŎ'LĪŌLĀTE**, pertaining to leaflets, as *trifoliolate*—having three leaflets.

**FŎ'LĪŌLE**, a little leaf or leaflet. (Rare.)

**FŎLĪ'ŌLŪM** (pl. *Fŏl'ŏlā*), see **FŎLĪŌLE**.

**FŎ'LĪŌSE**, (1) abounding in leaves; foliaceous; leafy; (2) having the nature or appearance of a leaf.

**FŎ'LĪŌŪS**, see **FOLIOSE**.

**FŎ'LĪŪM** (pl. *Fŏ'liā*), a leaf.

**FŎL'LĪCLE**, a simple pod opening by the ventral suture only, as in the milkweed (*Asclepias*).

**FŎLLĪC'ŪLĀTE**, having follicles.

**FŎLLĪC'ŪLŪS**, see **FOLLICLE**.

**FŎŌT**, a basal protrusion of the fern-plant which maintains its connection with the prothallus. Also a similar base to the seta in mosses.

**FOOT-STALK**, the stem of a leaf, flower, or other organ. See **PETIOLE**, **PEDUNCLE**, **PEDICEL**, **STIPE**.

**FŎRĀ'MĒN** (pl. *Fŏrām'ínā*), any small aperture, especially that in the integuments of the ovule, at which fertilization is effected. Compare **MICROPYLE**.

**FŎRĀM'ĪNĀTĒD**, having small holes or perforations. Compare **LACUNOSE**.

**FŎRĀMĪN'ŪLŌSE**, pierced with very small holes; diminutive of *Fŏraminated*.

**FŎR'ÇĪPĀTE**, like a pair of pincers.

**FŎRKED**, having two or more main branches arising from nearly the same point; furcate. Compare **BIFURCATED**.

**FŎRM**, (1) nearly the same as *Variation*, which see; (2) one

of the conditions or states when several regularly appear among plants of the same parentage, as the short-styled *form* in heterostyled species.

**FŎRM'ĀTĪVE**, concerned with or serving for growth, as *formative material* (starch, albuminoids, etc.), *formative tissue* (meristem).

**FŎRM-GĒ'NŪS**, a so-called genus constituted by similar form-species, as *Botrytis* in fungi; pseudo-genus.

**FŎRM-SPĒ'ÇĪĒS**, a particular phase in the development of a protean organism, as the rusts; so called because the different stages have often been mistaken for distinct species. Used also by E. L. Sturtevant synonymously with *Race*.

**FŎRM-SPŌRE**, a body which is morphologically or physiologically a spore, but which either does not become detached as an ordinary spore for dispersion, or which has not the power of germination.

**FŎR'NICĀTE**, see **VAULTED**.

**FŎR'NĪX** (pl. *Fŏr'nicēs*), arched scales in the throat of a corolla, as in comfrey.

**FŎS'SĪL BŎT'ĀNŸ**, the science of fossil plants, including their order of succession on the earth; paleobotany; paleo-phytology; geological botany; phytolithology.

**FŎS'TĒR-PLĀNT**, see **HOST**.

**FOUR-FOLD PŎL'LĒN-GRĀIN**, see **POLLEN-TETRAD**.

**FŎ'VĒĀ** (pl. *Fŏ'vĕā*), a pit or depression, as that in the leaf of *Isoetes*, containing the sporangium.

**FŎ'VĒĀTE**, marked with deep or rather large pits or depressions. Compare **ALVEOLATE**.

**FÖVĒ'ÖLĀ** (pl. *Fövē'ölæ*), a little pit or depression; diminutive of Fovea.

**FÖ'VĒÖLĀTE**, marked with little pits or depressions.

**FÖVĪL'LĀ** (pl. *Fövil'læ*), the contents of a pollen-grain; generally used in the singular for the entire contents, but sometimes applied to the individual granules in the fluid protoplasm.

**FREE**, not united with any dissimilar part; opposed to Adherent. Compare **DISTINCT**.

**FREE ÇĒLL-FÖRMĀ'TION**, the production of new cells within another, generally free from the cell-wall of the original or mother cell. Usually applied to cases in which several nuclei appear within the cell, each of which becomes surrounded by an independent cell-wall, as in the production of pollen; internal or endogenous cell-formation.

**FREE GRÖW'ING**, thrifty or vigorous, as opposed to dwarf or feeble.

**FREE-STÖCK**, a seedling tree of the same species used for grafting, as opposed to a stock of a different species, the latter being generally used for dwarfing.

**FREE'STÖNE**, applied to drupes in which the flesh separates readily from the pit when ripe. Compare **CLINGSTONE**.

**FRĪLL**, see **ARMILLA**.

**FRĪNGED**, see **FIMBRIATE**.

**FRÖND**, the leaf in ferns, especially the foliage portion of it; the expanded leaf-like portion of the thallus of liverworts; the stem and leaves taken together in plants where the distinction between leaf and stem

is not obvious, or where, as in *Equisetum*, the leaves are unimportant; the whole expanded leaf-like or branching thallus of many marine algae.

**FRÖNDĒS'ÇENÇE**, see **FOLIATION** and **PHYLLODY**.

**FRÖN'DĪFÖRM**, frond-like or frond-shaped, especially like the leaves of ordinary ferns.

**FRÖN'DÖSE**, frond-like, or producing fronds instead of ordinary foliage; leafy or leaf-like. (Rare.) Compare **THALLOID**.

**FRÖN'DÖSE THĀ'L'LŪS**, see **FOLIACEOUS THALLUS**.

**FRÖTH'Ÿ**, see **WARTY**.

**FRŪCTĒS'ÇENÇE**, the time at which a fruit arrives at maturity.

**FRŪCTĪFĪCĀ'TION**, the fruit and attendant parts; an inflorescence at any stage of growth; the process of development of a fruit and its attendant parts.

**FRŪCTĪFĪCĀ'TION, ÖR'GANŞ ÖF**, stamens and pistils.

**FRŪIT**, the mature ovary and its contents, together with any closely adhering part; specialized reproductive bodies of any kind, as the spores of cryptogams, including any modified portion of the plant in which they are produced. The term is also extended to many consolidated forms of inflorescence, as the cone of the pine.

**FRŪIT'-BŪD**, generally the same as **Flower-bud**, which see.

**FRŪIT'-DÖT**, see **SORUS**.

**FRŪIT'-SPŪR**, a short stout branch, bearing one or more flower-buds, as in the apple.

**FRŪMĒNTĀ'ÇEOŪS**, producing or pertaining to edible grain.

**FRŪS'TŪLE**, the individual in *Diatomaceæ* (often joined together in colonies).

**FRŮS'TŮLŌSE**, consisting of similar separable parts, like the frustules of diatoms.

**FRUTĚS'CENT**, somewhat shrubby.—woody at the base and herbaceous above, like the garden sage; subfrutescent; suffrutescent.

**FRŮ'TĚX**, a shrub, which see.

**FRŮ'TÍCŌSE**, shrubby; pertaining to shrubs; shrub-like. Compare **FRUTESCENT**.

**FRŮ'TÍCŌSE THÁL'LŮS**, a thallus in lichens which is attached to the substratum by one point only, or by a narrow base, and grows upward as a simple, or more usually branched, shrub-like body.

**FRŮTÍC'ŮLŌSE**, like a small shrub; diminutive of Fruticose.

**FRŮTÍC'ŮLŮS**, a little shrub.

**FŮ'CŌID**, pertaining to, or resembling, *Fucus*, a genus of marine algae.

**FŮGA'CIOŮS**, disappearing in a very short time; ephemeral. Compare **CADUCOUS**.

**FŮ'GITĪVE**, quickly disappearing; easily blown away or absorbed; volatile; evanescent; fugacious.

**FŮL'CRĀTE**, furnished with *fulcra*, which see.

**FŮL'CRŮM** (pl. *FŮl'crà*), a general term for various appendages to the plant which serve for support or defence, as tendrils, spines, prickles, hairs, etc. Now little used.

**FŮLĪG'INŌSE**, see **FULIGINOUS**.

**FŮLĪG'INOŮS**, dark brown; sooty or smoky.

**FŮLL**, applied to double flowers in which all the stamens and pistils are transformed into petals; completely double.

**FŮL'VĪD**, see **FULVOUS**.

**FŮL'VOŮS**, yellow, mixed with gray and brown; tawny.

**FŮL'VŮS**, see **FULVOUS**.

**FŮ'MŌSE**, smoke-colored; brownish gray.

**FŮ'MOŮS**, see **FUMOSE**.

**FŮNDĀMĚN'TAL ÔR'GANS**, root, stem, and leaf.

**FŮNDĀMĚN'TAL SŮS'TĚM**, all that portion of the substance of the higher plants which is not included in the fibrovascular and epidermal systems. Compare **CELLULAR SYSTEM**.

**FŮNDĀMĚN'TAL TĪS'SŮE**, pith, cortex, and medullary rays; ground-tissue.

**FŮNGICĪ'DAL**, destructive to fungi; antimycotic.

**FŮNG'ICĪDE**, anything destructive to the life of a fungus.

**FŮNG'ĪFŌRM**, mushroom-shaped.

**FŮNGĪL'LĪFŌRM**, diminutive of *Fungiform*.

**FŮNG'ŌID**, fungus-like.

**FŮNGŌL'ŌGŸ**, see **MYCOLOGY**.

**FŮNG'ŌSE**, spongy in texture, like many fungi.

**FŮNG'GOŮS**, produced by a fungus; pertaining to a fungus or to fungi, as a *fungous* disease. The substantive form "*Fungus*" is also used as an adjective.

**FŮNGŮSED**, injured by a fungus. (Rare.)

**FŮ'NĪCLE**, see **FUNICULUS**.

**FŮNĪC'ŮLAR CŌRD**, see **FUNICULUS**.

**FŮNĪC'ŮLŮS**, the stalk of an ovule or seed by which it is attached to the placenta; funicular cord; umbilical cord; podosperm. In *Nidulariæ* a hyphal cord attaching the peridiolum to the inner surface of the wall of the peridium.

**FŪNĪL'ĪFŌRM**, like a rope or cord, as the roots of many endogens.

**FŪN'NĒL-FŌRM**, tubular, and gradually enlarging upward to a spreading border; infundibuliform. Compare **ROTATE** and **CYATHIFORM**.

**FŪR'CĀTE**, see **FORKED**.

**FŪR'CĀTĒD**, see **FORKED**.

**FŪRCĀTION**, division into two (rarely said of more) main branches. See **BIFURCATION**.

**FŪRFŪRĀ'CEOŪS**, covered with soft scales easily displaced; scurfy.

**FŪR'RŌWED**, see **SULCATE**.

**FŪSÇĒS'CENT**, slightly fuscous.

**FŪS'COŪS**, grayish brown.

**FŪSĪFŌRM**, spindle-shaped; enlarged, terete, and tapering toward each end, as the roots of some radishes.

**FŪ'SŌID**, somewhat fusiform.

**GĀL'BŪLŪS**, a closed fleshy cone, resembling a berry, as that of juniper.

**GĀ'LEĀ**, an arched sepal or petal resembling a helmet; helmet; hood; cucullus. Also applied to the upper lip of some Scrophulariaceæ, though not so arched.

**GĀ'LEĀTE**, helmet-shaped, as the flower of *Aconitum*.

**GĀLVĀNŌT'RŌPIŚM**, the curvature of growing organs under the influence of a current of electricity.

**GĀM'ĒTE**, any sexual protoplasmic body, naked or invested with a membrane, motile or non-motile, as an oosphere or antherozoid; conjugation-cell; generative cell. Used mainly in *Conjugatæ*.

**GĀMĒTŌGĒN'ĒSĪS**, the production of gametes (male or female).

**GĀM'ĒTŌPHŪTE**, the prothallus or sexual generation in ferns, etc. Compare **SPOROPHYTE**.

**GĀMŌGĒN'ĒSĪS**, sexual reproduction.

**GĀMŌPĒT'ALOŪS**, having the petals more or less united; sympetalous. Also called erroneously *Monopetalous*. Compare **POLYPETALOUS** and **UNI-PETALOUS**.

**GĀMŌPHŪL'LOŪS**, a term including Gamopetalous and Gamosepalous, but applied mainly to sepals.

**GĀMŌSĒP'ALOŪS**, having sepals more or less united; monosepalous.

**GĀN'GLĪŌN** (pl. *Gān'gliā*), a term applied to various enlargements on the mycelium of certain fungi, some of which at least are rudimentary fructifications.

**ĠĒITŌNŌG'ĀMŪ**, the fertilization of a pistil by pollen from another flower of the same plant—the closest kind of cross-fertilization.

**ĠĒM**, see **GEMMA**.

**ĠĒM'ĪNĀTE**, in pairs or twins; binate.

**ĠĒM MĀ** (pl. *Ġēm'mā*), an old term for leaf-bud, now usually confined to various asexual reproductive bud-like processes in cryptogams. They may be distinguished from gonidia by not having as uniform methods of production, by greater variation in size, and by usually containing many cells. See **GNIDIUM**.

**ĠĒMMĀ'CEOŪS**, having the nature of gemmæ; bearing gemmæ; gemmiferous.

**ĜEMMĀ'TION**, reproduction by means of gemmæ.

**ĜEMMIF'ĒROŪS**, bearing gemmæ.

**ĜEMMĪP'ĀROŪS**, producing gemmæ.

**ĜEM'MŪLE**, diminutive of Gemma—an old term for leaf-bud and plumule. Now applied to certain primary formative granules in the protoplasm. (Nägeli.)

**ĜENĒĀĜEN'ĒSĪS**, see PARTHENOGENESIS.

**ĜEN'ĒRĀ**, pl., see GENUS.

**ĜEN'ĒRAL**, see COMMON.

**ĜEN'ĒRAL ĪN'VŌLŪCRE**, see COMMON INVOLUCRE.

**ĜEN'ĒRĀTING TĪS'SŪE**, see MERISTEM.

**ĜEN'ĒRĀTĪVE ĆĒLL**, a sexual reproductive cell of any kind. See GAMETE. Also applied to the cell in a pollen-grain which develops into the pollen-tube. Compare VEGETATIVE CELL.

**ĜEN'ĒRĀTĪVE NŪ'CLĒŪS**, the nucleus in the pollen-tube which is directly concerned in fertilization.

**ĜENĒR'ĪC**, pertaining to a genus.

**ĜENĒT'ĪC**, pertaining to generation or origin; e.g., things are *genetically* related which have the same origin.

**ĜENĒT'ĪC SPĪ'RĀL**, a spiral line passing through the point of insertion of all equivalent lateral members on an axis from older to younger; generating spiral; fundamental spiral.

**ĜENĪC'ŪLĀTE**, bent abruptly at an angle, like the knee, as the stems of decumbent grasses.

**ĜENĪC'ŪLŪM**, a term occasionally applied to a node, especially when the stem is bent at that point, as is frequent in grasses.

**ĜĒNŪFLĒC'TION**, the formation of a knee-like bend in a conjugating filament, as in *Sirogonium*.

**ĜĒ'NŪS** (pl. ĜĒn'ērā), a group of species within a family or order.

**ĜĒ'NŪS-HŪ'BRĪD**, a hybrid between plants of distinct genera; bigener.

**ĜĒ'ŌBLĀST**, a plumule which in germination leaves the cotyledons under ground, as in the pea.

**ĜĒŌGRĀPH'ICAL BŌT'ĀNŸ**, the study of plants in respect to their geographical distribution; botanical geography.

**ĜĒŌLŌG'ICAL BŌT'ĀNŸ**, see FOSIL BOTANY.

**ĜĒŌT'RŌPĪSM**, the tendency to grow downward or toward the centre of the earth. Compare APOGEOTROPISM.

**ĜĒRM**, a bud or growing point; the embryo in a seed; a rudimentary ovary or young fruit; a female reproductive cell—germ-cell, oösphere; a spore or seed; especially a spore or reproductive individual in bacteria.

**ĜĒRM-ĆĒLL**, any female reproductive cell. Compare SPERM-CELL. See OÖSPHERE. Applied also by Brefeld to spores of the simplest character (Sporidia) borne on a promycelium.

**ĜĒR'MĒN**, an old name for ovary.

**ĜĒR'MĪNAL ĀPPĀRĀ'TŪS**, see EGG-APPARATUS.

**ĜĒR'MĪNAL CŌR'PŪSĆLE**, see OÖSPHERE.

**ĜĒR'MĪNAL VĒS'ĪCLE**, see OÖSPHERE.

**ĜĒRMĪNĀ'TION**, the early stage of growth of a seed or spore into a new plant; sprouting.

**ĜĖR'MĪNĀTĪVE NŪ'CLĖŪS**, see GENERATIVE NUCLEUS.

**ĜĖRM-NŪ'CLĖŪS**, the nucleus resulting from the union of the pronuclei of two gametes in conjugation or fertilization.

**ĜĖRM-PŌRE**, a pit in the coat of a spore through which the germ-tube issues in germination.

**ĜĖRM-TŪBE**, the first growth from a spore or sclerotium upon germination.

**GĪB'BOŪS**, convex, as though swollen; protuberant, especially upon one side, or some distinct part of the surface.

**GĪLLS**, the spore-bearing plates upon the lower side of the cap in mushrooms; lamellæ.

**GIR'DLE**, the overlapping edge of one of the two valves in diatoms.

**GLĀ'BRĀTE**, nearly glabrous.

**GLĀBRĒS'CENT**, slightly glabrous.

**GLĀBRĪŪS'CŪLŪS**, almost but not quite glabrous.

**GLĀ'BROŪS**, smooth; free from roughness or hairs—the surface may be uneven. Compare SCABROUS and LÆVIS.

**GLĀD'ĪATE**, see ENSIFORM.

**GLĀND**, any secreting apparatus. A gland is generally a group of cells having a peculiar form and character to adapt them to their special function. They sometimes form wart-like projections upon the surface, or depressions within it. The hairs of many plants also serve as glands (see GLANDULAR HAIR). In deeply-seated glands of certain kinds, as those of the pine, the internal cell-walls of the gland are more or less absorbed to form reservoirs for the secreted sub-

stance. The term gland is also applied to certain wart-like swellings which are not secretory, as the abortive teeth at the base of the leaf in the peach and cherry.

**GLĀN'DĪFŌRM**, gland-shaped or gland-like; adenoid.

**GLAND OF THE TORUS**, see LEPAL.

**GLĀN'DŪLAR**, gland-like or bearing glands; glanduliferous.

**GLĀN'DŪLAR DĪSK**, see RETINACULUM.

**GLĀN'DŪLAR HĀIR**, an epidermal appendage of one or more cells, the apex of which is usually enlarged and contains the peculiar secretion.

**GLĀN'DŪLAR WOOD'Y TĪS'SŪE**, a term formerly applied to the woody tissue of Coniferæ from the appearance of its circular bordered pits.

**GLĀN'DŪLĀ'TION**, the position and arrangement of the glands upon a plant.

**GLĀNDŪLĪF'ĖROŪS**, bearing glands.

**GLĀN'DŪLŌSE**, see GLANDULAR.

**GLĀN'DŪLŌSE-SĖR'RĀTE**, having serratures tipped by so-called glands, as the leaves of *Prunus glandulosa*.

**GLĀNŠ**, a nut like that of the oak and chestnut, and sometimes extended to all large nuts. A term of little use.

**GLĀR'ĖOSE**, growing in gravelly places.

**GLĀUCĖS'CENT**, slightly glaucous.

**GLĀU'COŪS**, covered with a whitish bloom, as the leaves of cabbage; more accurately, light bluish green; sea-green. Compare PRUINOSE, HOARY, and CANESCENT.

**GLĒ'BĀ** (pl. *Glē'bæ*), chambered sporogenous tissue within a sporophore, as in puff-balls.

**GLŌ'BĀTE**, globular.

**GLŌ'BŌIDS**, granules of calcium-magnesium phosphate found in grains of aleurone.

**GLŌ'BŌSE**, see **GLOBULAR**.

**GLŌB'ŪLAR**, spherical or nearly so; globose.

**GLŌB'ŪLE**, the antheridium or male organ of Characeæ.

**GLŌCHĪD'ĪATE**, barbed like an arrow or fish-hook.

**GLŌ'CHĪS**, a barbed hair or bristle.

**GLŌM'ĒRATE**, collected into a close round head.

**GLŌM'ĒRŪLE**, a capitate cyme.

**GLŪ'MĀ**, see **GLUME**.

**GLŪMĀ'CEOUS**, bearing or resembling glumes.

**GLŪME**, one of the outer floral envelopes in grasses. The term as now used includes the bracts which subtend a spikelet (empty glumes) and the lower of the two bracts subtending the individual flower (flowering glume).

**GLŪMĒL'LĀ**, an obsolete term which has been applied both to the palet and lodicule in grasses.

**GLŪMĒL'LŪLĀ**, see **LODICULE**.

**GNAUR**, a knot. (Obs.)

**GNŌMŌN'ICAL**, bent at right angles. (Obs.) See **GENICULATE**.

**GŌB'LĒT-SHĀPED**, see **CRATERIFORM**.

**GŌNĪD'ĪOPHŌRE**, a stalk bearing a gonidium.

**GŌNĪD'ĪŪM** (pl. *Gōnīd'īā*), a general term for nearly all asexual reproductive bodies in cryptogams. Also applied to the

algal host of lichens. Compare **SPORE** and **CARPOSPORE**.

**GŌNĪM'ĪĀ** (sing. *Gōnīm'īūm*), a term of little importance originated by Nylander and used by Tuckerman and others for pale bluish green gonidia in lichens.

**GŌNĪM'ĪC LĀYĒR**, the gonidial layer in certain lichens. "Gonidial layer" is preferable.

**GŌN'ĪMOUS**, gonidial as applied to the algal host of lichens; gonimic. (Rare.)

**GŌN'ŌPHŌRE**, a stalk elevating the stamens and pistils only.

**GŌNŌPH'ŌRŪM**, see **GONOPHORE**.

**GŌN'ŌPLĀSM**, in Peronosporæ, the portion of the protoplasm of the antheridium which passes through the fertilizing tube and coalesces with the oosphere. (De Bary.)

**GŌRGE**, see **THROAT**.

**GŌS'SYPINE**, cottony.

**GRĀČ'ĪLE**, slender.

**GRĀFT-HYBRĪD**, a plant, or portion of a plant, which is supposed to have been essentially modified through the influence of a graft.

**GRĀIN**, the seed or fruit of Gramineæ; any small seed.

**GRĀINED**, having grain-like tubercles or processes, as those on the flowers of dock (*Rumex*).

**GRĀMĪNĀ'CEOUS**, pertaining to grasses; graminaceous.

**GRĀMĪN'ĒAL**, see **GRAMINACEOUS**.

**GRĀMĪN'ĒOUS**, see **GRAMINACEOUS**.

**GRĀMĪNŌL'ŌGŸ**, see **AGROSTOLOGY**.

**GRĀN'ŪLĀ - GŌNĪM'ĪĀ**, an old term for the gonidia of lichens.

**GRĀN'ŪLAR**, composed of grains or granules; covered with small tubercles.

**GRĀN'ŪLĀTE**, see **GRANULAR**.

**GRĀN'ŪLE**, any small grain-like body.

**GRĀNŪLĪF'ĒROŪS**, see **GRANULAR**.

**GRĀVĒ'ŌLENT**, having a strong unpleasant odor.

**GREEN-LĀYĒR**, see **MESO-PHLEUM**.

**GRĒGĀ'RĪOŪS**, the same as **Social**; also applied to the fruiting spots or sori of a parasitic fungus when they appear in groups upon the host. Compare **CESPITOSE**.

**GRŌSSĪFĪCĀ'TION**, the swelling of the ovary after fertilization.

**GROUND-TĪS'SŪE**, see **FUNDAMENTAL TISSUE**.

**GRŌW'ING POINT**, see **PUNCTUM VEGETATIONIS**.

**GRŌWTH-FŌRM**, a vegetable structure marked by some easily recognized feature of growth, characterizing stages in the lives of plants which are not necessarily closely related, as a filamentous fungus.

**GRŌWTH'-RĪNG**, see **ANNUAL RING**.

**GRŪMŌSE'**, see **GRUMOUS**.

**GRŪ'MOŪS**, consisting of clustered grains or tubercles; grumose.

**GUĀRD-ĈĒLLS**, special epidermal cells, usually two in number, enclosing the opening of a stoma, and which have the power of altering their shape so as to increase or diminish the size of the opening.

**GUĀRDĪAN-ĈĒLLS**, see **GUARD-CELLS**.

**GŪ'LAR**, pertaining to the throat.

**GŪM**, a name applied to various viscid (not oily) secretions of amorphous character which either dissolve in water or merely swell in it, as cerasin, the characteristic element of cherry gum.

**GŪM-PĀS'SĀGE**, a glandular intercellular passage containing gum.

**GŪS'SĒT**, an intercellular space, either filled or hollow, at an angle where more than two cells meet.

**GŪT'TĀTE**, covered with small dots, as though sprinkled with some colored fluid.

**GŪT'TĪFĒR**, a plant which produces gum or resin.

**GŪTTĪF'ĒROŪS**, yielding gum or resin.

**GŪT'TŪLĀTE**, resembling small drops of oil or resin.

**ĜYMNĀX'ŌNŸ**, a monstrous condition in which the placenta protrudes from the ovary.

**ĜYMNŌBLĀS'TŪS**, having the ovary superior. (Obs.)

**ĜYMNŌCĀR'POŪS**, naked-fruited; having the fruit destitute of hairs (rare), or free from the perianth or other covering; in fungi, having the hymenium exposed when the spores are maturing. Compare **ANGIOCARPOUS**.

**ĜYMNŌSPĒR'MOŪS**, having the seeds naked (not enclosed in a pericarp), as in *Coniferæ*.

**ĜYMNŌS'TŌMOŪS**, said of the mouth of the sporangium in mosses, when destitute of a peristome.

**ĜYM'NŌSPŌRE**, a naked spore—one not produced in a receptacle.

**ĜYNĀĈĪ'ŪM**, see **GYNÆCIUM**.

**GŸNĀN'DĒR**, a plant having the stamens inserted on the pistil. (Rare.)

**GŸNĀN'DŖĪAN**, see GYNANDROUS.

**GŸNĀN'DRŖPHŖRE**, a stalk supporting the stamens and pistils above the insertion of the corolla; gonophore.

**GŸNĀNDRŖS'PŖRŖS**, bearing both male and female spores; applied in *Cedogoniæ* to certain female plants which produce androspores.

**GŸNĀN'DRŖS**, having stamens and pistils united.

**GŸNĀN'THĒRŖS**, having stamens converted into pistils.

**GŸNĒĈĪŪM**, see GYNÆCIUM.

**GŸN'ŖBĀSE**, an elevated portion of the receptacle supporting the ovary, as in geranium. Compare GYNOPHORE.

**GŸNŖBĀ'SIC**, having a gynobase. Also applied to styles which are attached to the base instead of the summit of the ovary.

**GŸNŖDĪĒ'ĈĪŖS**, having only pistillate flowers on one set of plants and perfect flowers upon another set. Compare GYNOMŖCIOUS and ANDRODĪĒCIOUS.

**GŸNĒ'ĈĪŪM** (pl. *Gynæ'ċiā*), the pistils of a flower taken together.

**GŸNŖMŖNĒ'ĈĪŖS**, having perfect and pistillate flowers on the same plant but no staminate flowers. Compare GYNODĪCIOUS and ANDROMŖNCIOUS.

**GŸN'ŖPHŖRE**, the stalk of a pistil elevating it above the receptacle; carpophore; basigynium; podogynium; thecaphore. (Obs.) Compare GYNOBASE.

**GŸNŖSTĒ'ĜĪŪM** (pl. *GynŖstĒ'ĝiā*), a sheath or covering of the gynæcium, as the monadelphous filaments of *Asclepias*.

**GŸNŖSTĒ'MĪŪM**, a term formerly used for the united stamens and style (column) in orchids.

**GŸ'RĀTE**, coiled, circinate, or taking a circular course. Compare GYROSE.

**GŸRŖMĀ**, an old term for the annulus of ferns.

**GŸRŖSE'**, curved alternately backward and forward; nearly the same as Anfractuose. Sometimes used in the sense of Gyrate.

**HĀB'ĪT**, the general appearance or manner of growth, as loose or compact, dwarf or otherwise, climbing, creeping, or upright. Also the character with regard to fruitfulness, hardness, etc.

**HĀB'ĪTĀT**, the kind of situation in which a plant is naturally found, as marsh, woods, mountains, etc. Compare HABITATION.

**HĀBĪTĀ'TION**, the entire locality or geographical range within which a species is found. Compare HABITAT and STATION.

**HĀD'RŖME**, see XYLEM. Applied by Ptonie to the phloëm-like portion of the fibrovascular bundle in vascular cryptogams.

**HĀIR**, any feeble outgrowth from the epidermis; trichome. Hairs may be of any shape, and may consist of one cell or more. They are usually derived from a single epidermal cell.

**HĀIR-POINTED**, terminating in a very fine weak point.

**HĀIR'Ÿ**, covered with longer and

coarser hairs than "pubescent."

**HĀLBĒRD-SHĀPED**, see **HASTATE**.

**HĀLBĒRT-SHĀPED**, see **HASTATE**.

**HĀLF-ĀNĀT'RŌPOŪS**, see **AMPHITROPOUS**.

**HĀLF-BRĒED**, applied in stock-breeding to a cross between a well-established breed and common or "scrub" stock, but seldom used in botany. (Used by Burbidge in the sense of Cross.)

**HĀLF-ĒQ'ŪITANT**, said of opposite leaves whose margins are folded forward and enclose the stem and one edge of the opposite leaf, leaving one margin of each leaf outside. Compare **EQUITANT**.

**HĀLF-ĪNFĒRĪOR**, said of an ovary when the stamens are perigynous.

**HĀLF STĒM-CLĀSP'ING**, see **SEMIAMPLEXICAUL**.

**HĀLF-SŪPĒRĪOR**, see **PERIGYNOUS**.

**HĀLŌPH'ĪLOŪS**, salt-loving.

**HĀL'ŌPHŪTE**, a plant containing a large quantity of common salt in its composition, and which thrives best in salty places, as *Salsola Kali*.

**HĀLVĒD**, see **DIMIDIATE**.

**HĀMĀTE**, hooked.

**HĀMŌSE'**, see **HAMATE**.

**HĀ'MOŪS**, see **HAMATE**.

**HĀM'ŪLĀTE**, diminutive of **Hamate**.

**HĀM'ŪLŌSE**, diminutive of **Hamose**; bearing small hooks.

**HĀM'ŪLŪS**, a small hook.

**HĀPLŌGŌNĪD'ĪŪM**, an algal gonidium in lichens resembling *Protococcus*. (Rare.)

**HĀPLŌPĒRĪS'TŌMOŪS**, having a peristome in mosses with but a single row of teeth.

**HĀPLŌSTĒM'ŌNOŪS**, having the stamens in one whorl.

**HĀRD**, said of fruits, chiefly pears, which require cooking to soften them for eating.

**HĀRD'Ū**, said of plants capable of passing the winter uninjured by cold. Hardiness also implies the ability to withstand any injurious climatic influence, but its limited use referring to cold is most common.

**HĀS'TĀTE**, like the head of a halberd—applied to leaves which have a spreading lobe on each side of the base. Compare **SAGITTATE**.

**HĀS'TĪFORM**, see **HASTATE**.

**HĀS'TĪLE**, see **HASTATE**.

**HĀTCH ĒT-SHĀPED**, see **DOLABRIFORM**.

**HAULM**, the dead stems of any herbaceous plant.

**HAUSTŌ'RĪŪM** (pl. *Haustō'riā*), the special organ of certain parasites by means of which they obtain food from their host.

**HĒAD**, any compact somewhat rounded body upon a stem. The term is also applied to a cluster of nearly sessile flowers, as in the clovers and *Compositæ*, also to other more or less compact inflorescences, as the spike, corymb, and panicle. See **CAPITULUM**.

**HEĀRT**, the organic centre of anything, as the central portion of a tree-trunk, or a growing point surrounded by leaves.

**HEĀRT-SHĀPED**, see **CORDATE**.

**HEĀRT-WŌOD**, see **DURAMEN**.

**HĒBĒCĀR'POŪS**, having pubescent fruit. (Obs.)

**HĚB'ĚTĀTE**, having an obtuse point; blunted.

**HĚDĚRĀ'ĈEOŮS**, pertaining to or resembling ivy.

**HĚD'ĚRAL**, see **HEDERACEOUS**.

**HĚLIĈ'ĪFŌRM**, see **HELICOID**.

**HĚL'ĪCŌID**, (1) coiled into the form of a helix or snail-shell; spiral; (2) in inflorescence contrasted with **Scorpioid**, which see. See **HELICOID CYME** and **HELICOID DICHOTOMY**.

**HĚL'ĪCŌID ĈYME**, one in which each successive flower is situated upon the same side of a pseudaxis, which may or may not be coiled, as the primary branches of the inflorescence of *Hemerocallis fulva*; bostrychoid cyme; bostryx; false raceme. Compare **SCORPIOID CYME**.

**HĚL'ĪCŌID DIĈHŌT'ŌMŸ**, a dichotomy in which a branch on the same side in each successive bifurcation continues to develop while the other does not; bostrychoid dichotomy. Compare **SCORPIOID DICHOTOMY**.

**HĚLIŌĜŸ'RĀTE**, having a circular line carried obliquely around an object, as the annulus on the spore-case of *Trichomanes*.

**HĚLIŌT'RŌPIŠM**, having the power of movement under the influence of light.

**HĚL'MĚT**, see **GALEA**.

**HĚL'MĚT-SHĀPED**, see **GALEATE**.

**HĚLŌ'BĪŌŮS**, see **PALUSTRINE**.

**HĚMĪ-ĀNĀT'RŌPOŮS**, see **AMPHITROPOUS**.

**HĚM'ĪĈARP**, one of the ripened separable carpels of a dicarpellary fruit, as in *Umbelliferae*; diachænum. See **MERICARP**.

**HĚM'ĪĈYCLE**, half of a coil or circle.

**HĚMĪĈYĈ'LĪC**, having part of the floral organs arranged in whorls and the remainder in a spiral. Compare **CYCLIC** and **ACYCLIC**.

**HĚMĪT'RŌPAL**, see **AMPHITROPOUS**.

**HĚMĪT'RŌPOŮS**, see **AMPHITROPOUS**.

**HĚPTĀĜ'YNOŮS**, having seven pistils or styles.

**HĚPTĀM'ĚROŮS**, having seven parts.

**HĚPTĀN'DROŮS**, having seven stamens.

**HĚPTĀPĚT'ALOŮS**, having seven petals.

**HĚRB**, a plant of which the stem contains but little wood and dies to the ground at the close of the season. It may be an annual, a biennial, or a perennial.

**HĚRBĀ'ĈEOŮS**, like an herb; succulent. Also green, as opposed to colored like an ordinary corolla, as a petal with an *herbaceous* (green) tip.

**HĚRBĀ'ĈEOŮS PĚRĚN'NĪAL**, see **PERENNIAL HERB**.

**HĚRB'AL**, see **HERBARIUM**.

**HĚRBĀ'RĪŪM** (pl. *HĚrbā'riūm* or *HĚrbā'riā*), a classified collection of dried specimens of plants; herbal; hortus-siccus.

**HĚRBĚS'ĈENT**, herbaceous or somewhat so.

**HĚRBŌRĪZĀ'TION**, see **BOTANIZING**.

**HĚRCŌĜ'ĀMOŮS**, said of an hermaphrodite flower when some structural obstacle prevents self-fertilization, as in many orchids.

**HĚRMĀPH'RŌDĪTE**, see **PERFECT**.

**HĚSPĚRĪD'ĪŮM**, a fruit like the orange, being succulent within and covered with an indehiscent leathery rind.

**HĚTĚ'RĪŌ**, a collection of distinct indehiscent carpels belonging to a single flower. They may be either dry upon a fleshy receptacle, as in the strawberry, or dry upon a dry receptacle, as in *Ranunculus*, or fleshy upon a dry receptacle, as in the raspberry. Usually but improperly spelled *Eterio*.

**HĚTĚRAUXĚ'SĪS**, any irregular or unsymmetrical growth, either normal or abnormal.

**HĚTĚRŌCĀR'POŮS**, bearing fruit of two or more kinds or forms, as in the genus *Amphicarpea*. Compare *HOMOCARPOUS*.

**HĚTĚRŌČĚPH'ĀLOŮS**, bearing heads of more than one kind. For example, having flower-heads some of which contain only staminate flowers and some only pistillate.

**HĚTĚRŌCHRŌ'MOŮS**, having different members unlike in color; also applied to a flower-head in *Compositæ* when the florets of the centre or disk differ in color from those of the circumference or ray.

**HĚTĚRŌCLĪ'NOŮS**, having male and female flowers in separate heads or receptacles.

**HĚTĚRŌČYST**, one of the intercalated cells of special character in the filaments of *Nostochineæ*; limiting-cell. They are usually large, rounded, brownish, and glassy in appearance.

**HĚTĚRŌD'RŌMOŮS**, turning or coiling in opposite directions, as a tendril which coils first one way and then the other, or a plant on which the leaf-spiral of a branch runs in the oppo-

site direction from that of the main axis. Compare *HOMODROMOUS* and *ANTIDROMOUS*.

**HĚTĚRĚ'ČIOŮS**, parasitic on different plants at different stages of growth; metœcious; metoxenous; heteroxenous.

**HĚTĚRĚČĪS'MAL**, see *HETERĚCIOUS*.

**HĚTĚRĚČYST**, see *HETEROCYST*.

**HĚTĚRŌG'AMOŮS**, said of the heads of flowers in *Compositæ* when the florets are not all alike in sex.

**HĚTĚRŌGĚ'NĚOŮS**, not of uniform substance or character.

**HĚTĚRŌGĚ'ĚSĪS**, see *SPONTANEOUS GENERATION*.

**HĚTĚRŌG'ŌNOŮS**, having two or more kinds of flowers differing in the relative lengths of the stamens and styles; heterostyled. See *DIMORPHOUS* and *TRIMORPHOUS*.

**HĚTĚRŌM'ĀLOŮS**, spreading in all directions. Compare *HOMOMALOUS*.

**HĚTĚRŌM'ĚROŮS**, having a different number of parts in the different whorls of a flower. Compare *ISOMEROUS*. Applied also to a lichen thallus when a layer of the algal cells divides it into an outer cortical and an inner medullary portion. Compare *HOMOIMEROUS*.

**HĚTĚRŌMŌR'PHOŮS**, of two or more forms, as the flowers of *Buchloë dactyloides*.

**HĚTĚRŌPHŪL'LOŮS**, having two or more distinct sorts of foliage-leaves on the same plant, as in junipers; also applied to species whose leaves differ widely from those of related species. The term is not usually applied to plants in which the leaves merely assume different forms at

successive elevations on the stem.

**HĚTĚRŔHĪ'ZAL**, having roots which seem to proceed from no fixed point, as those of acrogens; said also of spores which germinate indifferently from any portion of the surface. Little used.

**HĚTĚRŔS'PŔOŔŮŠ**, bearing asexually produced spores of more than one kind, as in the Uredinæ; having macrospores and microspores, as in Selaginella. Compare HOMOSPOROUS and ISOSPOROUS.

**HĚTĚRŔSTĚLED**, see HETEROGENOUS.

**HĚTĚRŔTĀXŸ**, the deviation of organs from their normal position.

**HĚTĚRŔT'RŔPAL**, see AMPHITROPOUS.

**HĚTĚRŔT'RŔPOŮŠ**, see AMPHITROPOUS. Also applied to any part which is turned in an unusual direction.

**HĚTĚRŔX'ĚNOŮŠ**, see HETERECIOUS.

**HĚX-**, a prefix derived from the Greek, meaning six. See SEX-

**HĚXĀĠ'ŸNOŮŠ**, having six pistils or styles.

**HĚXĀM'ĚROŮŠ**, having the parts in sixes. Applied mainly to the parts of a flower, and meaning six organs in each whorl. Also written 6-merous.

**HĚXĀN'DROŮŠ**, having six stamens; hexastemonous.

**HĚXĀPĚT'ALOŮŠ**, having six petals.

**HĚXĀPHŸL'LOŮŠ**, having six leaves or leaflets.

**HĚXĀSTĚM'ŔNOŮŠ**, see HEXANDROUS.

**HĪBĚR'NĀCLE**, see HIBERNACULUM.

**HĪBĚRNĀC'ŪLŪM**, a protection for a growing part through the winter, as a bud or bulb.

**HĪBĚR'NAL**, pertaining to winter; blooming or vegetating in winter; hiemal; hyemal.

**HĪBĚRNĀ'TION**, passing the winter in a dormant condition.

**HIDDEN-VEINED**, having the veins of a leaf buried in the tissue so as not to be easily visible.

**HIDE-BOUND**, see BARK-BOUND.

**HĪĚMAL**, see HIBERNAL.

**HĪ'LAR**, pertaining to the hilum.

**HĪLE**, see HILUM.

**HĪ'LŪM** (pl. HĪ'lā, or preferably HĪ'lŭms), the scar, or point of attachment of a seed. The term is also applied to the nucleus of a starch-grain.

**HIP**, the fruit of the rose; a cynarrhodium.

**HĪPPŔCRĚP'ĪFŔRM**, horseshoe-shaped.

**HĪRSŪTE**, clothed with rather numerous long coarse hairs, harsher than pubescent and less harsh than hispid.

**HĪR'TŪŠ**, indefinite in meaning, but nearly the same as Hirsute, which see.

**HĪRTĚL'LOŮŠ**, slightly hirsute; stiffly pubescent.

**HĪS'PĪD**, clothed with erect stiff hairs, as Borage.

**HĪSPĪD'ŪLOŮŠ**, minutely hispid.

**HĪSTĪŔL'ŔĠŸ**, see HISTOLOGY.

**HĪSTŔDĪĀL'ŸŠĪŠ**, the separation of the cells of a tissue from each other.

**HĪSTŔĠĚNĚT'ĪC**, tissue-forming; pertaining to histogeny.

**HĪSTŔĠĚN'ĪC**, see HISTOGENETIC.

**HĪSTŔĠ'ĚNŸ**, the origin or formation of tissue.

**HĪSTŌL'ŌĠŸ**, the science of the structure of tissues. Compare MORPHOLOGY.

**HŌARY**, grayish white; canescent.

**HŌLD'FAST**, any root or root-like organ whose chief function is to retain the plant in place, as the aerial roots of ivy, or the suckers or rhizoids of many sea-weeds; crampon.

**HŌLĒRĀ'ĠEOŪS**, see OLERACEOUS.

**HŌLŌCĀR'POŪS**, having the pericarp entire. (Rare.)

**HŌLŌSĀP'RŌPHŸTE**, a complete saprophyte: one which lives entirely on dead organic matter.

**HŌLŌSĒRĠ'EOŪS**, covered with very short silky hairs hardly visible to the eye. Compare VELUTINOUS.

**HŌMŌBLĀS'TĠC**, said of the embryo when in its usual position with the radicle directed toward the micropyle and the cotyledons in the opposite direction. Compare ENANTIOBLASTIC.

**HŌMŌCĀR'POŪS**, bearing fruit all of one kind. Compare HETEROCARPOUS.

**HŌMŌĠĒN'TRĠC**, see CONCENTRIC.

**HŌMŌCHRŌ'MOŪS**, of uniform color.

**HŌMŌD'RŌMAL**, see HOMODROMOUS.

**HŌMŌD'RŌMOŪS**, turning continuously in the same direction. Compare HETERODROMOUS.

**HŌMŌDŸ'NĀMOŪS**, of equal strength, size, or vigor.

**HŌMŌĠ'ĀMOŪS**, having all the florets of a head in Composite alike in sex. Compare HETE-

ROGAMOUS. Also used for Synacmic, which see.

**HŌMŌĠĒ'NĒOŪS**, having the same nature or structure throughout.

**HŌMŌĠ'ŌNOŪS**, having the stamens and pistils alike in character in all flowers of the species; homostyled. Compare HETEROGONOUS.

**HŌMOIŌM'ĒROŪS**, applied to a lichen thallus in which the gonidia and hyphæ are mingled together and not distinctly stratified. Compare HETEROMEROUS.

**HŌMŌL'ŌGOŪS**, of the same morphological nature, as leaves, bracts, sepals, petals, stamens, and pistils are all *homologous*, or forms of the same fundamental organ.

**HŌM'ŌLŌGUE**, a part homologous with another, as a stamen with a leaf; homotype. Compare ANALOGUE. A nectary, for example, is in some cases the homologue of a stamen and in others of a petal, but it is always the analogue of any other nectary.

**HŌMŌL'ŌĠŸ**, correspondence in structure or morphological nature. Compare ANALOGY. See HOMOLOGOUS and HOMOLOGUE.

**HŌMŌM'ĀLOŪS**, applied to leaves or other organs which originate on the different sides of a stem, but are all turned toward one side. Compare SECUND.

**HŌMŌMŌR'PHOŪS**, of the same shape or character, as when the disk-flowers as well as the ray-flowers of a head in Composite are ligulate.

**HŌMŌPĒT'ALOŪS** (obs.), see REGULAR.

**HŌMŌS'PŌROŪS**, having asexually produced spores of only

one kind; isosporous. Compare HETEROSPOROUS.

**HÔMÔSTÏLED**, see HOMOGONOUS.

**HÔMÔT'RÔPAL**, see HOMOTROPOUS.

**HÔMÔT'RÔPOÛS**, said of an embryo in a curved seed when it is curved in the same manner as the seed.

**HÔM'ÔTÏPE**, see HOMOLOGUE.

**HÔN'EY**, see NECTAR.

**HÔN'EY-CÔMBED**, see ALVEOLATE.

**HÔN'EY-DEW**, a sweet substance found on the leaves of plants, usually a secretion from plant-llice.

**HÔN'EY-GUÏDE**, see NECTAR-GUÏDE.

**HÔN'EY-PÔRE**, the supposed pore in flowers which secretes honey. (Obs.)

**HÔN'EY-SPÔT**, see NECTAR-GUÏDE.

**HÔOD**, see CUCULLUS.

**HÔOD'ED**, see CUCULLATE.

**HÔOD'-SHÂPED**, see CUCULLATE.

**HÔOP**, the connecting band between the valves in Diatomacæ.

**HÔRİZÔN'TAL SÏSTĚM**, the cellular as distinguished from the fibrovascular system. Little used.

**HÔR'MÔGÔN**, see HORMOGONIUM.

**HÔRMÔGÔNÏÛM** (pl. *Hôrmôgônî'â*), a reproductive body in certain algæ, as the Oscillatoricæ, consisting of a short chain of cells, one of the natural fragments of a filament.

**HÔRN**, any horn-shaped appendage, as the spur of a flower.

**HÔRN'LĚT**, a little horn.

**HÔRNY**, of the texture of a horn,

as the pericarp of witch-hazel, *Hamamelis Virginica*.

**HÔRÔLÔG'ICAL**, said of flowers which open and close at definite hours of the day.

**HÔRTĚN'SÏS**, pertaining to a garden.

**HÔR'TÛS-SÏC'CÛS**, see HERBARIUM.

**HÔSE-IN-HÔSE**, when the calyx in a gamopetalous flower takes the form of the corolla, or when the corolla itself in such a flower is in two parts or whorls.

**HÔST**, a plant which supports a parasite.

**HÔST'-PLÂNT**, see Host.

**HÛ'MÏFÛSE**, spreading upon the ground.

**HÛ'MÏLÏS**, low, or less in stature than related species, but not necessarily dwarf; pumilus.

**HÛ'MÛS PLANT**, see SAPROPHYTE.

**HÛSK**, any large, dry, thin envelope covering the fruit or inflorescence, as one of the bracts surrounding an ear of corn.

**HÛALĚS'CENT**, somewhat hyaline.

**HÛ'ÂLÏNE**, clear and colorless like glass or water; translucent or transparent.

**HÛ'ÂLÔPLÂSM**, the clear portion of the protoplasm free from granules. Often restricted to such a layer next to the cell-wall, then called by some Ectoplasm.

**HÛBĚR'NÂCLE**, see HIBERNACULUM.

**HÛBĚRNÂTING**, see HIBERNATING.

**HÛ'BRÏD**, the offspring of two species of the same genus. Compare CROSS. The term

Hybrid is often erroneously used to designate the result of cross-fertilization between any different species or varieties. As true hybrids are often sterile, the term "mule" has been applied to them. Burbidge proposes to retain the term "mule" for sterile hybrids only. See GENUS-HYBRID.

**HYBRIDIZA'TION**, the fertilization of a flower by pollen from a plant of another species. Often erroneously used for cross-fertilization in general.

**HY'DRŌID**, see TRACHEID.

**HYDRŌPH'ĪLOŪS**, having the pollen conveyed to the stigma by means of water.

**HY'DRŌPHŪTE**, an aquatic plant of any kind.

**HYDRŌT'RŌPIŚM**, power in a growing organ of turning in a definite manner or direction through the influence of moisture, i.e. of taking a definite position with respect to the source of moisture. See POSITIVE and NEGATIVE HYDROTROPISM. Compare HYGROSCOPIC.

**HYĒ'MAL**, see HIBERNAL.

**HYGRŌMĒT'RĪC**, moving in a definite manner as a result of a change in the degree of moisture; hygrosopic.

**HYGRŌPH'ĀNOŪS**, having a watery appearance.

**HY'GRŌPLĀŚM**, the fluid portion of the protoplasm. Compare STEREOPLASM.

**HYGRŌSCŌP'IC**, (1) absorbing moisture with avidity; (2) showing an increase or diminution of moisture by motion; hygrometric. Compare HYDROTROPISM.

**HYGRŌSCŌP'IC ĆĒLLŚ**, certain cells in the leaves of grasses

which have the power of altering their form under the influence of moisture and causing the leaves to "curl" in dry weather. From their bladder-like appearance they are also called Bulliform Cells.

**HŪMĒ'NĪŪM** (pl. *HŪmĒ'niā*), a spore-bearing surface in fungi, especially in mushrooms and their allies.

**HŪMĒN'ŌPHŌRE**, the portion of a sporophore immediately beneath a hymenium; hymenophorum.

**HŪMĒNŌPH'ŌRŪM**, see HYMENOPHORE.

**HŪPĀN'THĪŪM**, an expanded, usually fleshy, receptacle, more or less enclosing the flowers, as in the fig, rose, *Dorstenia* and *Ambora*; hypanthodium. See HIP and SYCONUS. Compare CLINANTHIUM and RECEPTACULAR TUBE.

**HŪPĀNTHŌ'DĪŪM**, see HYPANTHIUM.

**HŪPĒRBŌ'RĒAN**, growing in the extreme north.

**HŪPĒR'TRŌPHŪ**, excessive development. Compare ATROPHY.

**HŪ'PHĀ** (pl. *HŪ'phā*), a filament of mycelium.

**HŪPHĀŚ'MĀ**, an old term for mycelium, still occasionally used when particularly delicate and web-like.

**HŪP'NŌSPĒRM**, an asexually produced resting-spore in algæ; hypnospor.

**HŪP'NŌSPŌRĀN'GIŪM**, a sporangium containing resting-spores.

**HŪP'NŌSPŌRE**, any resting-spore, especially one produced asexually. Compare HYPNOSPERM. See RESTING-SPORE.

**HYPŌ-**, in Greek derivatives, under.

**HYPŌCĀRPOĠĒ'AN**, producing fruit beneath the surface of the ground, as the peanut.

**HYPŌĊHĪL**, see **HYPOCHILIUM**.

**HYPŌĊHĪL'ĪUM**, the lower or basal part of the divided labelum in certain orchids; hypochil. Compare **EPICHILIUM**.

**HYPŌCŌTŪYL**, the caulicle. Compare **EPICOTYL**.

**HYPŌCŌTŪLĒ'DŌNĀRŪ**, situated below the cotyledons.

**HYPŌCRĀTĒR'ĪFŌRM**, having a long tube with an abruptly spreading border, as in phlox; salver-form.

**HYPŌĊĒRM**, see **HYPODERMA**.

**HYPŌĊĒR'MĀ**, cells or layers of cells next beneath the epidermal system which are developed in a special manner, usually as collenchyma or other strengthening tissue.

**HYPŌĊĒR'MAL**, situated beneath the epidermis; hypodermous.

**HYPŌĊĒR'MOŪS**, see **HYPODERMAL**.

**HYPŌĠĒ'AN**, see **HYPOGEAN**.

**HYPŌĠĒ'OŪS**, see **HYPOGEAN**.

**HYPŌĠĒ'AL**, see **HYPOGEAN**.

**HYPŌĠĒ'AN**, subterranean: applied to parts which grow beneath the surface of the ground, and to plants which ripen their fruit beneath the surface; hypogean; hypogæous; hypogeal; hypogeous.

**HYPŌĠĒ'ENOŪS**, growing upon the lower surface of anything.

**HYPŌĠĒ'OŪS**, see **HYPOGEAN**.

**HYPŌĠ'YNOŪS**, growing beneath the pistil, and free.

**HYPŌNĀS'TIC**, denoting curvature from growth on the lower side of an organ, causing it to

bend upward. Compare **EPINASTIC**.

**HYPŌNĀSTŪ**, having more rapid growth upon the lower than upon the upper surface. Compare **EPINASTY**.

**HYPŌPHLĒ'ŌDAL**, beneath the bark.

**HYPŌPH'ŪLLOŪS**, situated upon the lower side of a leaf.

**HYPŌPHŪL'LŪM**, an abortive or scale-like leaf subtending anything. (Rare.)

**HYPŌPH'ŪSIS**, an appropriate but seldom used term for the Apophysis in mosses.

**HYPŌTHĀL'LŪS**, a lower or interior stratum in a thallus.

**HYPŌTHĒ'ĪŪM**, a portion of the thallus beneath or around the apothecium in lichens.

**HYP'SŌPHŪLL**, see **BRACT**.

**HŪSTĒRĀN'THOŪS**, said of plants which have the flowers expand after the leaves have appeared. The leaves therefore in a hysteroanthous plant are proteranthous.

**HŪSTĒRŌĠĒ'IC**, formed late; applied to intercellular spaces formed in older tissues. Compare **PROTOGENIC**.

**ĪCŌS-**, in Greek compounds, twenty.

**ĪCŌSĀN'DROŪS**, having twenty or more perigynous stamens. Compare **POLYANDROUS**.

**ĪDĒNTĪFĪCĀTION**, see **DETERMINATION**.

**ĪD'ĪŌBLĀST**, a single cell in a tissue which differs greatly from its neighbors in form, size, nature of cell-wall, or cell-contents.

**ĪD'ĪŌPLĀSM**, a term applied by Nägeli to the active organizing part of the protoplasm.

**ĪG'NĒŪS**, fiery-red, a lively scarlet.

**ĪMBĒR'BĪS**, without a beard or other hairs. See GLABROUS.

**ĪMBĪBĪ'TION**, the addition of moisture to organized bodies in a manner which causes them to swell up. Compare ABSORPTION.

**ĪM'BRĪCĀTE**, overlapping like tiles or shingles on a roof, as the scales of buds. In æstivation at least one piece is wholly external and one wholly internal.

**ĪM'BRĪCĀTĒD**, see IMBRICATE.

**ĪM'BRĪCĀTĪVE**, see IMBRICATE.

**ĪMMĀR'ĠĪNĀTE**, without a distinct rim or border.

**ĪMMĒRSED'**, (1) growing wholly under water; demersed; submerged. (2) When one part or organ is completely embedded in another; innate. Compare EMERSED.

**ĪMMŌRTĒLLES'**, a term applied to various plants, the flower-heads of which retain their original shape and an attractive appearance when dried, as Gnaphalium and some other Composite; everlasting flowers.

**ĪMPĀRĪPĪN'NĀTE**, pinnate with a terminal leaflet, thus usually making an odd number; oddly pinnate.

**ĪMPĒR'FĒCT**, said of a flower which lacks either stamens or pistils.

**ĪMPĒR'FŌRĀTE**, closed; without an opening.

**ĪMPRĒGNĀ'TION**, see FERTILIZATION.

**IN-AND-IN**, breeding for successive generations from closely related individuals. Growing a "stock" or "strain" of corn on the same farm for many

years would be called in-and-in breeding.

**ĪNĀNE'**, empty.

**ĪNĀN'THĒRĀTE**, bearing no anther; said of certain sterile filaments or abortive stamens.

**ĪNĀRCH'ING**, the natural union of stems or roots which grow in contact; natural grafting. Also applied in horticulture to a form of grafting in which both stock and scion remain at first attached to their own roots.

**ĪNĀRTĪC'ŪLĀTE**, not jointed; continuous.

**ĪNCĀNĒS'CENT**, see CANESCENT. Strictly, somewhat or slightly canescent.

**ĪNCĀ'NOŪS**, see CANESCENT.

**ĪNĠISED'**, irregularly and deeply cut into rather large lobes.

**ĪNCLĪNED'**, gradually bent out of a perpendicular at less than a right angle, as the branches of most deciduous trees.

**ĪNCLŪD'ĒD**, contained in a cavity and not projecting beyond it; enclosed. Compare EXsertED.

**ĪNCŌMPLETE'**, destitute of some part which is usually present; said especially of flowers which lack one or more of the four sets of primary organs, sepals, stamens, and pistils.

**ĪNCŌNSPĪC'ŪŌŪS**, small in size; not readily observed.

**ĪNCRĀS'SĀTE**, thickened; especially, gradually thickened or enlarged upward from the base.

**ĪNCRĒS'CENT**, growing.

**ĪNCŪBĀ'TION**, the period from the time of infection or the sowing of the spores until a bacterium or fungus becomes externally or visibly manifest. Applied mainly to pathogenic bacteria affecting animals to indicate the period from the

time the organism enters the body until the disease appears.

**ĬN'CŪBOŪS**, having the tip of one leaf overlap the base of the one above it, as in the *Jungermaniaceæ*. Compare **SUCCUBOUS**.

**ĬNCŪM'BENT**, leaning or lying upon; applied to cotyledons when the radicle is folded against the back of one of them (the radicle in such case being dorsal). Compare **ACCUMBENT**. An anther is *incumbent* when lying on the inside of the filament to which it is attached. Compare **VERSATILE**.

**ĬNCŪR'VĀTE**, see **INCURVED**.

**ĬNCURVED'**, bent or curved inward; incurvate.

**ĬNDEÇĬD'ŪOŪS**, either evergreen or persistent.

**ĬNDEĖ'ĬNĬTE**, either uncertain or not uniform in number, or too many to be readily counted; numerous; over twenty when applied to stamens. Also applied to objects which have no well-defined boundary or outline.

**ĬNDEĖ'ĬNĬTE GROWTH**, see **INDETERMINATE**.

**ĬNDEĖ'ĬNĬTE ĬNFLŌRĚS'ÇENCE**, see **INDETERMINATE**.

**ĬNDEĤĬS'ÇENT**, not opening in a definite manner at maturity to discharge the contents. The fruits of the pea and lily are deliscent, those of the tomato and apple *indehiscent*.

**ĬNDEĤĖR'MĬNĀTE**, a mode of centripetal inflorescence in which the flowers all arise from axillary buds. Applied also to all stems which do not produce a well-developed terminal bud at the close of the season, as the grape. Compare **DETERMINATE**.

**ĬNDĬF'FĖRENT**, undifferentiated; not specialized; as *indifferent* cells or tissues.

**ĬNDĬG'ĖNOŪS**, strictly native; aboriginal. Compare **NATURALIZED**.

**ĬNDĬVĬD'ŪĀL FERTILIZA'TION**, a term applied by L. H. Bailey to cross-fertilization between different flowers upon the same plant.

**ĬNDŪMĖN'TŪM**, any hairy covering upon plants.

**ĬNDŪP'LĬCĀTE**, having the margins folded inward. Compare **INVOLUTE**.

**ĬNDŪRĀS'ÇENT**, becoming hard.

**ĬN'DŪRĀTED**, hardened.

**ĬNDŪ'ŠĬĀTĖD**, furnished with an indusium.

**ĬNDŪ'ŠĬŪM**, an outgrowth of the epidermis covering the sorus in many kinds of ferns; shield. Also applied to a ring of "collecting hairs" below the stigma, as in *Lobeliaceæ*.

**ĬNDŪ'ŠĬŪM, FALSE**, see **FALSE INDUSIUM**.

**ĬNDŪ'VĬĖ**, any parts of the flower which persist and cover the fruit at maturity; also dead and withered leaves which remain persistent on the stem. Compare **RELIQUĀĖ**.

**ĬNĖQŪĬĀT'ĖRAL**, unequal sided.

**ĬNĖR'MOŪS**, unarmed; destitute of spines, prickles, etc.

**ĬNFĀRCT'ĀTE**, see **FARCTATE**.

**ĬNFĖC'TIOUS**. In ordinary use this term has the same sense as *Contagious*, being applied to all diseases which are communicable from one plant or animal to another by direct contact or otherwise. In a broad sense infectious includes *Contagious*, as defined under that

term, and applies also to diseases originating from germs which are able to vegetate for a time at least outside of the affected plant or animal. In a strict sense Infectious applies only to diseases produced by organisms which have their natural home outside of the infected body.

**INFĒRĪOR**, lower, as an ovary to which the other floral organs are adnate so that they arise from its summit. If the other organs are free from the ovary *they* are inferior and the ovary superior, though the term is seldom applied to them. The *inferior* side of a leaf or flower is the lower or anterior side which faces away from the supporting axis or stem.

**INFLĀ'TĒD**, puffed up; bladdery.

**INFLĒCT'ĒD**, see INFLEXED.

**INFLĒXED'**, abruptly bent inward or downward; inflected.

**INFĻORĒS'CEŅCE**, (1) the arrangement of the flowers or flower-clusters on a plant; anthotaxy. Compare PHYLLO-TAXY. (2) The portion of the plant which bears the flowers and fruit, i.e., a flower-cluster of any kind.

**INFĻĀ-ĀX'ĪLLĀRŲ**, situated below the axil.

**INFRĀCT'ĒD**, see INFLEXED.

**INFŪCTĒS'CEŅCE**, an inflorescence in fruit; the fruiting portion of a plant, together with its fruit. Little used, and applied mainly to collective fruits.

**INFŪDĪB'ŪLAR**, see INFUNDIB-ULIFORM.

**INFŪDĪB'ŪLĪFŌRM**, funnel-shaped; having a tube which gradually enlarges upward and bears a moderately spreading

border, as *Datura*. Compare HYPOCRATERIFORM.

**ĪNĪ'TIAL CELLS**, the first formed cells of a tissue.

**ĪNJECTION**, filling of inter-cellular spaces by water, an occurrence which rarely happens.

**ĪNNĀTE'**, (1) said of anthers attached by their base to the apex of the filament; such anthers are sometimes called Vertical; (2) said of an organ or object which grows within the substratum, as "*mycelium* or *perithecia innate*," i.e., growing within the tissue of the host.

**ĪN'NĒR LĀM'ĪNĀ**, the layer of a lignified cell-wall adjoining the inside of the cell. Compare MIDDLE LAMINA.

**ĪNNŌVĀ'TION**, a new or additional growth or shoot, as the supplementary extensions of the stem in mosses. Applied also to an entire group of off-growths of the same morphological value if some of the forms are true innovations in their manner of growth; thus Dr. William Trelease applies this term in *Epilobium* to forms which vary in different species from sessile buds to dense rosettes, running leafy shoots, scaly rhizomes, and filiform bulbiferous stolons.

**ĪNŌS'CŪLĀTĪŅ**, opening into each other; anastomosing.

**ĪNSĒRT'ĒD**, attached to or growing out of, as stamens *inserted* on the corolla.

**ĪNSĒR'TION**, the place or mode of attachment.

**ĪNSPĪS'SĀTĒD**, thickened by drying.

**ĪNSTĪP'ŪLĀTE**, see EXSTIPULATE.

**ĪNĖGRĪFŌ'LĪŪS**, having entire leaves.

**ĪNĖĠŪMENT**, any covering layer or membrane.

**ĪN'TĒR**-, in composition, between. Compare **INTRA**-.

**ĪNĖRĀX'ĪLLĀRŸ**, between the axils.

**ĪNĖR'CĀLĀTĒD**, inserted between or in the midst of.

**ĪNĖRCĀR'PĒLLĀRŸ**, between the carpels.

**ĪNĖRĈĒL'LŪLAR PASS'AGE**, a continuous opening between the cells.

**ĪNĖRĈĒL'LŪLAR SPACE**, any cavity within the plant. Usually applied to smaller openings than intercellular passages.

**ĪNĖRĈĒL'LŪLAR SUB'STANCE**, material extruded from the cells within the plant.

**ĪNĖRĈĒL'LŪLAR SŸS'TĒM**, the intercellular spaces and material of a plant taken together.

**ĪNĖRCŌS'TAL**, situated between the ribs of a leaf.

**ĪNĖRFĀSĈĪ'ŪLAR**, between the bundles: said of a layer of cambium which extends from one fibrovascular bundle to another.

**ĪNĖRFĪ'LAR**, between the filaments, as the resting-spore in the conjugation-tube of Mesocarpus, or the fluid portion of the protoplasm in the hypothetical fibrillar network. Compare **INTRA-FILAR**.

**ĪNĖRFŌLIĀ'ĈEOŪS**, attached to the stem between the bases or petioles of opposite leaves; interpetiolar. Compare **INTRA-FOLIACEOUS**.

**ĪNĖRMĒ'DĪĀTE TĪS'SŪE**, all the fundamental tissue in exogens, except that which is immediately associated with the

epidermis and the fibrovascular bundles. It includes the pith, medullary rays, and most of the cortex. The term is of little use.

**ĪNĖRMĒ'DĪĀTE ZŌNE**, the zone in endogens between the pith and epidermis containing the fibrovascular bundles.

**ĪNĖR'NAL GLAND**, a secreting cell, or usually a cluster of secreting cells, within the plant, as those containing essential oil which form the translucent dots in the leaves of the orange.

**ĪN'TĒRNŌDE**, the portion of a stem between two nodes.

**ĪNĖRPĒT'ĪŌLAR**, see **INTER-FOLIACEOUS**.

**ĪNĖRRŪPT'ĒD**, said of any surface or series the continuity of which is broken, as a pinnate leaf in which leaflets much larger or smaller than usual are interposed among the others, or a slender stem or root which is contracted at intervals.

**ĪNĖRRŪP'TĒDLŸ - PĪN'NĀTE**, pinnate with small (or sometimes large) leaflets interposed between those of the usual size.

**ĪNĖRSTĪ'TIAL**, applied to that method or theory of growth which consists in the interposition of new particles between the older ones instead of additions to the surface.

**ĪNĖX'ĪNE**, see **INTEXTINE**.

**ĪNĖX'TĪNE**, a term applied by Fritzsche to the inner part of the extine when, as in *Enothera*, it separates as a distinct membrane. Compare **EXINTINE**.

**ĪN'TĪNE**, the inner coat of a pollen-grain.

**ÎNTÔR'TION**, turning to one side from the vertical or any straight line. (Rare.)

**ÎNTRĂ-**, in composition, within. Compare **INTER-**.

**ÎNTRĂCĂR'PĚLLĂRŲ**, produced inside a carpel.

**ÎNTRĂCĚL'LŲLAR**, within a cell.

**ÎNTRĂFĂȘCÎ'ŲLAR**, within the bundle, as an *intrafascicular* lacuna in Equisetum.

**ÎNTRĂFÎ'LAR**, within the filament. Compare **INTERFILAR**.

**ÎNTRĂFŲLIĂ'CEŲȘ**, within a leaf; between the leaf and stem, as the stipules of Polygonum; intrapetiolar. Compare **INTERFOLIACEOUS**.

**ÎNTRĂLĂM'ĚLLAR**, within special layers or lamellæ, as the trama of Hymenomyces.

**ÎNTRĂMĂR'ĞINAL**, situated within but near the margin.

**ÎNTRĂMĂT'RICAL**, in a matrix or nidus.

**ÎNTRĂPĚT'ÎŲLAR**, (1) inside or beneath the petiole, as the buds of sumach and sycamore (subpetiolar); (2) between the petiole and the stem, as the stipules of sycamore and most buds; intrafoliaceous.

**ÎNTRĂVĂĞ'INAL**, within the sheath: applied to branches in grasses which in their growth do not break through the base of the sheath of the subtending leaf, but push upward between the sheath and the stem. Compare **EXTRA-VAGINAL**.

**ÎNTRŲDŲCED'**, applied to plants brought from another country, and growing spontaneously unless otherwise noted. Compare **NATURALIZED**.

**ÎNTRŲFLĚXED'**, bent strongly inward. Between **Incurved** and **Infracted**.

**ÎNTRŲRSE'**, facing or turning inward. Applied to anthers which open on the side next the pistil.

**ÎNTRŲD'ĚD**, appearing as if pushed inward or indented; intruse.

**ÎNŲȘȘŲCĚP'TION**, the intercalation or formation of other particles among those already present.

**ÎNŲLÎN**, a material isomeric with (resembling) starch which replaces that substance in many Compositæ.

**ÎNVĂĞ'INĂTĚD**, inclosed in a sheath.

**ÎNVERSE'**, see **INVERTED**.

**ÎNVERT'ĚD**, having a position or mode of attachment the reverse of that which is usual; inverse. A seed or ovule is *inverted* when attached to the top of the ovary. It is then, however, more properly called "suspended." Compare **ERECT** and **ASCENDING**.

**ÎNVERT'ĚD SŲPĚRPOȘÎ'TION**, the situation of accessory buds below the principal bud or one first formed. Compare **DIRECT SUPERPOSITION**.

**ÎNVŲL'ŲCĚL**, a partial or secondary involucre, as one subtending a partial umbel.

**ÎNVŲLŲCĚL'LŲM**, see **INVOLUCEL**.

**ÎNVŲLŲ'CRAL**, pertaining to an involucre.

**ÎNVŲLŲ'CRĂTE**, having an involucre; involucred.

**ÎN'VŲLŲCRE**, a set of bracts immediately subtending a flower or inflorescence; involucreum.

**ÎN'VŲLŲCRED**, see **INVOLUCRATE**.

**ÎNVŲLŲ'CRĚT**, see **INVOLUCEL**.

**ÎNVŲLŲ'CRŲM**, see **INVOLUCRE**.

**ĪN'VŌLŪTE**, rolled inward from both sides. Compare CONVOLUTE.

**ĪNVŌLŪTION-FŌRM**, a swollen bladder-like form in Schizomycetes, supposed to be a diseased condition of the form with which it is found associated. (De Bary.)

**ĪNVŌLŪTION-PĒ'RĪŌD**, see RESTING-PERIOD.

**ĪNVŌLŪTION-STĀGE**, see RESTING-STAGE.

**ĪRRĒĠŪLAR**, denoting flowers in which one or more of the organs of a set are different in size or form from the others. Irregularity occurs most frequently in the petals. The pea is an example of an irregular flower, the tulip of a regular. Compare SYMMETRICAL.

**ĪRRĒĠŪLAR PĒLŌ'RĪĀ**, a teratological condition in which an irregular flower becomes regular by the formation of the irregular parts in increased number. Compare REGULAR PELORIA.

**ĪRRĪTĀBĪL'ĪTŸ**, having the power of movement in a definite manner under the influence of external stimuli, as in the coiling of tendrils, twining of stems, or "sleep" of leaves; sensitiveness. Compare EXCITABILITY and CONTRACTILITY.

**ĪSĀDEL'PHŌŪS**, having an equal number of stamens in each adelphia.

**ĪSŌBĪLĀT'ĒRAL**, having two sides alike in form and structure, as the leaves in the iris.

**ĪSŌB'RĪŌŪS**, applied to the embryo of dicotyledons because both are equally developed; isodynamous. Little used.

**ĪSŌCHRŌ'ŪS**, uniform in color throughout; unicolor. Compare CONCOLOR.

**ĪSŌDŸ'NĀMOŪS**, equally developed.

**ĪSŌĠ'ĀMŸ**, the conjugation of gametes of similar form. Compare OŌGAMY.

**ĪSŌĠ'ŸNOŪS**, having the pistils of a flower all alike. Compare HETEROGYNOUS.

**ĪSŌMĒR'ĪC**, see ISOMEROUS.

**ĪSŌM'ĒROŪS**, having the same number of organs in each floral whorl; isomeric. There may be more than one whorl of any of the kinds of organs. Compare HETEROMEROUS.

**ĪSŌPH'ŌROŪS**, transformable into something else, as "Actinia is an *isophorous* form of Dendrobium."

**Ī'SŌSPŌRE**, said of a spore when all are alike, as in ferns. (Rare.) Compare MACROSPORE and MICROSPORE.

**ĪSŌS'PŌROŪS**, not having macrospores and microspores; homosporous. Compare HETEROSPOROUS.

**ĪSŌSTĒM'ŌNOŪS**, having the stamens equal in number to the petals. More properly, having the stamens and petals each in one whorl and of equal number. Compare ANISOSTEMONOUS, MEIOSTEMONOUS, DIPLOSTEMONOUS, and OBDIPLOSTEMONOUS.

**ĪSŌS'TŌMOŪS**, having calyx and corolla of equal size. (Rare.)

**ĪSTH'MŪS**, the constricted portion between the two half-cells in most desmids.

**JOINT**, a node; the septum between two cells in a filament; articulation.

**JŪ'BĀ**, a loose panicle. (Obs.)

**JŪ'GŪM** (pl. Jū'gā), (1) one of the ridges on an umbelliferous fruit; (2) a pair of leaflets in a pinnate leaf.

**JŪLĀ'ÇEOŪS**, see **AMENTACEOUS**.

**JŪ'LĪFŌRM**, resembling an ament or catkin.

**JŪ'LŪS**, see **AMENT**.

**JŪVĒNĒS'ÇENCE**, see **REJUVENESCENCE**.

**KĀR'YŌKĪNĒ'SĪS** (also spelled Caryocinesis), Schleicher's term, which has been generally adopted, for the transformations of the nucleus during cell-division; indirect division of Fleming.

**KĀR'YŌL'ŸSĪS**, the dissolution of the nucleus or some part of it.

**KĀR'YŌMĪTŌ'SĪS**, see under **MITOSIS**.

**KĀR'YŌPLĀSM**, see **NUCLEOPLASM**.

**KĀR'YŌSŌ'MĀ** (pl. Kār'yōsōm'ātā), a consolidated mass of microsoma in a nucleus.

**KĀTĀBŌL'ĪC**, a term applied by Geddes to disruptive, destructive, or descending metabolism, accompanying the waste of tissues, resulting in the formation of chemical products of simpler composition; catabolic. Compare **ANABOLIC**.

**KĀTHŌD'ĪC**, see **CATHODIC**.

**KEEL**, a ridge somewhat resembling the keel of a boat; particularly the two inferior petals of a papilionaceous flower which are more or less united into a keel-shaped body; carina.

**KEELED**, having a keel or longitudinal ridge; carinated.

**KĒRĀMĪD'ĪŪM**, see **CERAMIDIUM**.

**KEY**, see **SAMARA**.

**KEY-FRUIT**, see **SAMARA**.

**KID'NĒY-FŌRM**, see **RENIFORM**.

**KID'NEY-SHAPED**, see **RENIFORM**.

**KNEE**, a kind of knot which projects upward into the air from the roots of the bald cypress (*Taxodium distichum*) and some other trees. Produced mainly in wet soil, and formerly supposed to serve for aëration, but now believed to be an organ of strength. See **PNEUMATODE**. The term *knee* is also applied to any abruptly bent or knee-shaped organ.

**KNEE-JOINTED**, see **GENICULATE**.

**KNEEPAN-SHAPED**, see **PATELLIFORM**.

**KNOT**, a node or swollen joint; a protuberance on the surface of a tree, as where a branch has been removed and the cut or broken surface is more or less overgrown; a place in the wood where the tissues are displaced by an injury or by the passage of a branch.

**KNOTTED**, cylindrical, and swollen at intervals, somewhat like a knotted cord.

**LĀBĒL'LŪM**, the large lower petal of an orchid; lip.

**LĀ'BĪĀTE**, gamopetalous, with two divisions, anterior and posterior; two-lipped; bilabiate. The two lips of a labiate flower are usually unequal and the flower irregular, as in snap-dragon.

**LĀ'BĪŌSE**, having the petals of a polypetalous corolla arranged so as to imitate the labiate form. (Rare.)

**LĀ'BĪŪM**, the lower lip of a labiate flower.

**LĀĈ'ĒRĀTE**, having the margin deeply cut into irregular segments as if torn. Compare **EROSE**, **INCISED**, **LACINIATE**.

**LĀĈ'ĒRĀTED**, see **LACERATE**.

**LĀĈ'RŶMÆFŌRM**, see **TEAR-SHAPED**.

**LĀCĪN'ĪĀ** (pl. *Lācīn'īā*), a segment of a laciniate leaf.

**LĀCĪN'ĪĀTE**, deeply cut into narrow incisions, more irregular and larger than **Fimbriate**; slashed.

**LĀCĪN'ĪFŌRM**, fringe-like.

**LĀCĪN'ŪLĀTE**, finely laciniate. Compare **LACINULOSE**.

**LĀCĪN'ŪLŌSE**, lacinate or bearing little fringes.

**LĀCTĒS'CENT**, resembling or producing milk or latex.

**LĀCTĪF'ĒROŪS**, producing or conveying latex; laticiferous.

**LĀCTĪF'ĒROŪS VĒS'SĒLS**, see **LATICIFEROUS VESSELS**.

**LĀCŪ'NĀ** (pl. *Lācū'nā*), a large deep depression on the surface, or open space between the cells.

**LĀCŪ'NAR**, having, resembling, or pertaining to *lacunæ*.

**LĀC'ŪNŌSE**, (1) perforated with rather large holes. Compare **FORAMINATED**. (2) Having depressions in the surface larger, more irregular, or more irregularly placed than in **Alveolate**.

**LĀC'ŪNŌSE - RUGŌSE'**, marked with deep broad irregular wrinkles, as the shell of the walnut or pit of the peach. Compare **RUMINATED**.

**LĀCŪSTRĪNE**, growing in or on the margins of lakes.

**LADDER-CELLS**, see **SCALARI-FORM VESSELS**.

**LĒV'ĪGĀTE**, smoothed, as if polished; *lævis*.

**LĒV'ĪS**, smooth; having an even surface devoid of hair or roughness of any kind; opposed especially to **asperate**, **striate**, **sulcate**, or any unevenness. Compare **NITID** and **GLABROUS**.

**LĀĜĒ'NĪFŌRM**, shaped like a Florence flask (the ordinary bulbous flask of chemists). The term bottle-shaped means the same, or nearly the same.

**LĀM'EL**, see **LAMELLA**.

**LĀMĒL'LĀ** (pl. *Lāmēl'lā*), diminutive of *Lamina*; a thin plate, as one of the "gills" beneath the cap of a mushroom.

**LĀM'ĒLLĀTE**, composed of thin plates or scales; *lamellose*.

**LĀMĒL'LĪFŌRM**, in the form of a plate or scale.

**LĀM'ĒLLŌSE**, see **LAMELLATE**.

**LĀM'ĪNĀ** (pl. *Lām'inā*), the blade of a leaf or limb of a petal or sepal.

**LĀM'ĪNĀTĒD**, consisting of plates, scales, or layers; *plated*.

**LĀM'ĪNĀTĒD BŪLB**, see **TUNICATED BULB**.

**LĀ'NĀTE**, covered with long curled hairs like wool; *lanose*; *lanuginous*; *woolly*.

**LĀN'ĈĒŌLĀTE**, tapering abruptly toward the base and gradually toward the apex, like the head of a lance.

**LANCE-OVATE**, between *lanceolate* and *ovate*, but approaching nearer the latter.

**LĀ'NŌSE**, see **LANATE**.

**LĀNŪ'ĜĪNOŪS**, see **LANATE**.

**LĀP'ĪDŌSE**, growing in stony places.

**LĀPPĀ'ĈEOŪS**, bur-like.

**LĀR'VAL STATE**, resting state, as the *sphacelium* of *ergot*. (W. G. Smith.) Seldom used.

- LĀŠĪŌCĀR'POŪS**, having pubescent fruit.
- LĀ'TENT**, remaining dormant beyond the usual time, or until called into growth by some particular stimulus.
- LĀ'TENT BŪD**, see DORMANT BUD and ADVENTITIOUS BUD.
- LĀ'TENT PĒ'RĪŌD**, see DORMANT STATE and RESTING PERIOD.
- LĀT'ĒRAL**, attached to the side of an organ.
- LĀT'ĒRAL**, n., a side branch or root.
- LĀT'ĒRAL BŪD**, one situated on the side of a branch, usually in the axil of a leaf. Compare TERMINAL BUD.
- LĀT'ĒRAL DEHĪS'CEŅCE**, when the opening of an anther takes place upon one or both sides, instead of on the surface facing or opposite to the pistil.
- LĀT'ĒRAL NŪCLĒ'ŌLŪS**, see PARANUCLEOLUS.
- LĀT'ĒRAL NŪ'CLĒŪS**, see PARANUCLEUS.
- LĀT'ĒRAL PLĀNE**, of a flower or other lateral structure, a plane passing from side to side at right angles to the median plane. The lateral plane of a leaf, for example, would pass between its upper and lower surfaces.
- LĀ'TĒX**, a viscid milky fluid found in certain plants, as the lettuce. See LATICIFEROUS VESSELS.
- LĀ'TĒX TUBES**, see LATICIFEROUS VESSELS.
- LĀTĪCĪFĒROŪS VĒS'SĒLŠ**, special anastomosing tubes containing the latex in such plants as have milky juice; latex tubes.
- LĀTĪFŌ'LIĀTE**, having broad leaves. Compare STENOPHYLLOUS and ANGUSTIFOLIATE.
- LĀTĪFŌ'LIŌŪS**, see LATIFOLIATE.
- LĀTĪSĒP'TĀTE**, having a broad septum or partition;—applied to pericarps. Compare ANGUSTISEPTATE.
- LĀT'TĪCED**, see CLATHRATE.
- LĀT'TĪCED CELL**, see SIEVE-TUBE.
- LĀX**, loose; the opposite of close or crowded. An inflorescence may be *lax* because its pedicels are flaccid or slender.
- LĒAD'ĒR**, the upper portion of the primary stem of a tree, or a central upright branch which extends beyond the rest of the head.
- LĒAF**, an appendage to the stem, definite in position, and usually expanded to receive air and light. Besides leaves of the usual forms which serve as foliage there are other forms for additional purposes, including those which form the various parts of a flower. See PHYLLOME.
- LĒAF-ĀRRĀŅE'MENT**, see PHYLLOTAXIS.
- LĒAF-BLĀDE**, the expanded portion of ordinary leaves; lamina.
- LĒAF-BŪD**, a bud which immediately upon expansion produces leaves only. Compare FLOWER-BUD.
- LĒAF-CŪCLE**, the course of a spiral from the insertion of a leaf through that of intermediate ones to the insertion of the next leaf directly above or below the place of starting.
- LĒAF-GREEN**, see CHLOROPHYLL.
- LĒAF'LĒT**, one of the divisions or blades of a compound leaf. Leaflets are often articulated

to the common petiole, and in order to be distinguished from segments they must themselves have distinct petioles, however short.

**LĒAF-SCĀR**, the place on a stem from which a leaf has fallen.

**LĒAF-SHĒATH**, see **SHEATH**.

**LĒAF-STALK**, see **PETIOLE**.

**LĒAF-TĒN'DRĪL**, a tendril which is a transformed leaf or part of a leaf.

**LĒAF-TRĀCE**, a fibrovascular bundle, or collection of bundles, while on its passage from the fibrovascular system of the stem to the leaf.

**LĒATH'ĒRĪ**, see **CORIACEOUS**.

**LĒFT**. The left margin of a leaf, petal, or other foliar organ is the one upon the left hand as its stem is held downward or toward the observer and the organ is viewed upon the upper or inner surface. The left side of a lateral flower is the side upon the left hand as the observer stands in front with the stem erect and the flower between him and the main axis. See remarks under **Dextrorse**.

**LĒĠT'ĪMĀTE FĒRTĪLĪZĀ'TION**, fertilization in the usual or natural manner, either close or cross fertilization, whichever in the particular case occurs in nature.

**LĒĠŪME**, the fruit of the Leguminosæ. It is monocarpellary, with the seeds attached to the ventral side, and usually monolocular and dehiscent into two valves by ventral and dorsal sutures. The pea and bean are examples. Compare **LOMENT**.

**LĒĠŪMĪNOŪS**, bearing legumes, or relating to plants of the order Leguminosæ.

**LEIO-**, a prefix from the Greek, meaning smooth.

**LĒN'TĪCĒLS**, small developments of cork at particular points on the surface of many kinds of stems. They appear during the first season's growth, and in some cases, at least, originate beneath the stomata. They probably aid in the transfer of gases and aqueous vapor.

**LĒNTĪCĒLLE'**, see **LENTICEL**.

**LĒNTĪC'ŪLĀ** (pl. **LĒntic'ulæ**), see **LENTICEL**.

**LĒNTĪC'ŪLAR**, in the form of a double convex lens; lentiform.

**LĒN'TĪFŌRM**, see **LENTICULAR**.

**LĒNTĪĠ'ĪNŌSE**, see **LENTIGINOUS**.

**LĒNTĪĠ'ĪNOŪS**, covered with small dots, like dust, scurf, or freckles; lentiginose.

**LĒP'AL**, a rudimentary sterile stamen, or organ supposed to be such, usually in the form of a nectar-gland or petaloid scale; gland of the torus. See **STAMINODIUM**.

**LĒPĀN'THĪŪM**, an old term for a petal which contains a nectary.

**LĒP'IDĒS**, epidermal scales of various kinds, especially when attached at the centre. Compare **RAMENTA**.

**LĒP'IDŌTE**, scaly; scurfy; leprous; leprose.

**LĒP'RŌSE**, see **LEPIDOTE**.

**LĒP'ROŪS**, see **LEPIDOTE**.

**LĒP'TĀ-**, or **LĒP'TŌ-**, a prefix from the Greek, meaning small, thin, or slender.

**LĒP'TŌME**, see **PHLOËM**. Applied by Potonié to the phloëm-like portion of the fibrovascular bundle in vas-

cular cryptogams. Compare HADROME.

**LĚPTŮPHLŮĚM**, a term applied by Vaizey to a portion of the central fascicle or strand in the seta of Polytrichaceæ (in mosses) which he considers to be rudimentary phloëm.

**LĚPTŮPHÝL'LOŮS**, having scale-like leaves.

**LĚPTŮSPŮRĀN'GIŮM**, a sporangium derived from a single epidermal cell, as in the true ferns, in distinction from one derived from a group of epidermal cells (eusporangium), as in the Ophioglossaceæ and Marattiaceæ.

**LĚPTŮXÝ'LĚM**, so-called rudimentary xylem in the seta of Polytrichaceæ. (Vaizey.)

**LEU-**, or **LEUCO-**, a prefix from the Greek, meaning white.

**LEŮCĀN'THOŮS**, white-flowered.

**LEŮČĪTE**, see LEUCOPLAST.

**LEŮCŮPLĀST**, a colorless protoplasmic granule (plastid) such as those in which starch originates; starch-builder; leucoplastid; amidoplast; anoplast; leucite proper. See PLASTID.

**LĚV'IGĀTE**, see LÆVIGATE.

**LĚ'VĪS**, see LÆVIS.

**LĪ'ĀNE**, a woody climbing or twining plant of considerable size; applied only to those which abound in some tropical forests.

**LĪ'BĚR**, the inner layer of bark, consisting chiefly of the phloëm of the fibrovascular system and therefore containing the bast-tissue; bast.

**LĪ'BRĪFŌRM CELL**, a narrow thick-walled cell of woody tissue resembling bast; wood-fibre.

**LID**, see OPERCULUM.

**LID-CELLS**, terminal cells of the neck in some archegonia which for a time close the canal; stigmatic cells.

**LIFE-ČÝ'CLE**, the course of development from any given stage, as the spore or seed, back to the same stage again.

**LĪG'NĚOŮS**, woody, or pertaining to wood.

**LĪGNĪFĪCĀ'TION**, the process of becoming converted into wood; sclerosis.

**LĪG'NĪNE**, a secondary deposit, forming the greater part of the bulk of ordinary wood. It contains less oxygen than cellulose, and according to Payen has the formula  $C_{35}H_{24}O_{20}$ . It is also written Lignin, and is the same as Sclerogen.

**LĪG'NŮM**, see Wood.

**LĪG'ŮLĀ** (pl. *LĪg'Ůlĕ*), see LIGULE.

**LĪG'ŮLĀTE**, (1) having a ligule; (2) strap-shaped, i.e., linear and about four to six times as long as broad.

**LĪG'ŮLĀTE FLŌ'RĚT**, one of the marginal flowers of a head in Compositæ, bearing a ligulate or strap-shaped corolla; ray-floret. Compare TUBULAR FLORET.

**LĪG'ŮLE**, (1) a strap-shaped corolla in Compositæ, such as those on the outer margin of the head in most sun-flowers; (2) a membranous appendage on the inner side of the leaf in many grasses and some other endogens at the top of the sheath.

**LĪGŮLĪFLŌ'ROŮS**, said of a head of flowers in Compositæ which contains ligulate flowers only, as in Chicory.

**LĪMB**, the expanded portion of a petal or sepal. Compare **BLADE** and **BORDER**.

**LĪM'BĀTE**, see **BORDERED**.

**LĪM'BŪS**, border, blade, or limb. (Obs.)

**LĪM'ĪTING CELL**, see **HETERO-CYST**.

**LINE**, one twelfth of an inch.

**LĪN'ĒAR**, very narrow, with the margins parallel or nearly so.

**LĪN'ĒATE**, marked with fine parallel lines, especially of color. Compare **STRIATE** and **ACICULATED**.

**LĪN'ĒOLĀTE**, diminutive of **Lineate**.

**LĪN'GUĀFŌRM**, see **TONGUE-SHAPED**.

**LĪN'GUĪFŌRM**, see **TONGUE-SHAPED**.

**LĪN'GŪLĀTE**, see **TONGUE-SHAPED**.

**LĪN'INE**, a term proposed by Schwarz and adopted by Strasburger (1888) for the substance of the hyaloplasmic filaments of the nucleus in a state of repose.

**LĪNNĒ'AN SYSTEM**, the system of classification devised by Linnaeus, founded upon the number and arrangement of the stamens and pistils; sexual system.

**LIP**, (1) one of the divisions (especially the lower) of a labiate calyx or corolla; (2) the labellum in orchids.

**LĪPŌX'ĒNOŪS**, said of a parasite which leaves its host and completes its development independently at the expense of the reserve material appropriated from the host. (De Bary.) Compare **METECIOUS**.

**LIPPED**, see **LABIATE**. Applied in pomology to the cavity of

an apple when a broad projection of the flesh protrudes against the stem. Compare **FOLDED**.

**LĪRĒL/LĀ** (pl. **Līrēl'læ**), a linear sessile apothecium in lichens.

**LĪTHŌPH'ĪLOŪS**, see **SAXICOLOUS**.

**LĪTH'ŌCĀRP**, see **CARPOLITE**.

**LĪTH'ŌCŪST**, a cell containing a cystolith.

**LĪTHŌSPĒR'MOŪS**, having very hard seeds.

**LĪT'TŌRAL**, growing upon shores, especially upon the sea-shore between tide-marks. Compare **MARINE**.

**LĪV'ĪD**, lead-color; bluish brown or gray.

**LŌ'BĀTE**, lobed; said of a leaf the margin of which is divided about to the middle into rounded parts with broad sinuses.

**LŌBE**, a rounded portion of a leaf or petal; any division of a leaf larger than a tooth which is not a leaflet.

**LŌBED**, see **LOBATE**.

**LŌB'ŪLĀTE**, having small lobes.

**LŌB'ŪLE**, a small lobe.

**LŌĈĒL/LĀTE**, having small or secondary cavities (locelli).

**LŌĈĒL/LŪS** (pl. **LŌĈēl'li**), diminutive of **Loculus**; a little cavity. Used by some in the sense of **Loculus** for a compartment in an ovary or anther.

**LŌĈ'ŪLĀMENT**, see **LOCULUS**.

**LŌĈ'ŪLAR**, having a cavity or cavities; loculose.

**LŌĈŪLĪCĪ'DAL**, dehiscient throughout the middle of the back of each cell at a dorsal suture. Compare **SEPTICIDAL**.

**LŌĈ'ŪLŌSE**, locular; cellular; especially, having numerous cav-

ities, as the pith of poke, *Phytolacca decandra*.

**LÖC'ULOŮS**, see LOCULAR.

**LÖC'ULŮS** (pl. *Löc'ulī*), the cell of an ovary, anther, or similar cavity.

**LÖCŮS'TĀ**, see SPIKELET.

**LÖDĪC'ŪLĀ** (pl. *Lödīc'ŭlæ*), see LODICULE.

**LÖD'ICŪLE**, one of the small scales at the base of the grain between the stamens and palet of many grasses.

**LŌ'MENT**, a jointed or plurilocular legume formed by spurious transverse dissepi-ments, as in *Desmodium*. Some lomenta are articulated and separable at the septa or pseudo-septa between the seeds.

**LŌMĒN'TĀ'CEOŮS**, bearing or resembling a loment.

**LŌMĒN'TŪM**, see LOMENT.

**LŌNGĪTŪ'DĪNAL SŸS'TĒM**, an obsolete term for fibrovascular system.

**LŌ'RĀTE**, having the form of a thong or strap; ligulate; linear. Compare FLABELLIFORM.

**LŮ'BRĪCOŮS**, slippery.

**LŮ'ČĪD**, clear. Often used in the sense of Nitid.

**LŮM'BRĪCAL**, about the shape of an earth-worm. Compare VERMICULAR.

**LŮ'MĒN** (pl. *LŮ'minà*), the cavity of a cell or filament, or any part or spot which seems to emit light.

**LŮ'NAR**, (1) pertaining to the moon; (2) in the form of a half-moon or crescent, as a *lunar* spot upon a leaf; semi-lunar; semilunate. Compare LUNATE.

**LŮ'NĀTE**, said of an organ having the form of a half-moon or crescent, or which is marked

with one or more spots of that form, as a *lunate* leaf. Compare LUNAR.

**LŮ'NĀTĒD**, having lunar markings; lunate.

**LŮ'NĪFŌRM**, half-moon or crescent shaped; lunate.

**LŮ'NŪLĀTE**, diminutive of Lunate.

**LŮ'PŪLĪNE**, a yellow waxy powder resembling pollen, upon the scales of the hop, containing the active principle, which is bitter, aromatic, and tonic.

**LŮ'PŪLĪ'NOŮS**, resembling a head or cone of hops.

**LŮ'RĪD**, dingy brown.

**LŮTĒS'ÇENT**, yellowish.

**LŮ'TĒŮS**, bright orange yellow. Compare FLAVUS.

**LŸCŌT'RŌPAL**, see LYCOTROPOUS.

**LŸCŌT'RŌPOŮS**, said of an otherwise orthotropous ovule which is curved like a horseshoe.

**LŸMPHĀT'IC**, clear, like water; not clouded: said, for example, of ordinary plant-hairs containing clear cell-fluid in distinction from those which are glandular, in which the cell-contents are usually granular and turbid.

**LŸ'RĀTE**, pinnatifid, with the lobes decreasing in size toward the base.

**LŸ'RĀTELŸ PIN'NĀTE**, pinnate, with the pinnæ decreasing in size toward the base of the leaf.

**LŸ'RE-SHAPED**, see LYRATE.

**LŸSĪGĒNĒT'IC**, see LYSIGENIC.

**LŸSĪGĒN'IC**, formed by the disorganization of cells; applied to the formation of certain intercellular spaces which originate by the breaking down of contiguous cells; lysigenetic;

lysigenous. Compare SCHIZOGENIC.

**LŸSÍG'ĒNOŮS**, see LYSIGENIC.

**MĀCRĀN'DROŮS**, having large or elongated male plants in algæ.

**MACRO-**, large or long.

**MĀCRŌĖPH'ĀLOŮS**, a term sometimes applied to embryos which have the cotyledons very large and consolidated, as in horse-chestnut. Compare MACROPODOUS.

**MĀCRŌGŌNÍD'IŮM** (pl. *Mācrōgōnid'ia*), see MACROSPORE.

**MĀCRŌPH'ŸLLOŮS**, having long or large leaves.

**MĀCRŌP'ŌDOŮS**, a term of little importance applied to a leaf having a long petiole, or to an embryo, chiefly in monocotyledons, having a large radicle.

**MĀCRŌSPŌRĀN'ĖIŮM**, a sporangium containing macrospores; megasporangium; oösporangium.

**MĀC'RŌSPŌRE**, a female or archegonium-bearing spore in some vascular cryptogams. The macrospores are larger than the male or microspores.

**MĀCRŌSPŌ'RŌPHŸL**, the leaf bearing the macrosporangium in the heterosporous Pteridophyta. It is the homologue of the carpel in flowering plants.

**MĀCRŌSTŸ'LOŮS**, applied to heterostylous flowers with long styles and short filaments. See remark under Microstylous.

**MĀC'ŮLĀTE**, spotted or blotched; maculose.

**MĀCŮLĀ'TION**, the pattern or arrangement of the spots upon a plant.

**MĀC'ŮLŌSE**, see MACULATE.

**MAIDEN** (Hort.), a term sometimes applied to a tree or other plant of one year's growth from

the bud or graft. Also applied to any plant which has not fruited, and in forestry to a seedling in distinction from a tree which has sprung from an old root or stub.

**MĀL'ĀCID**, mucilaginous.

**MALE**, bearing stamens only; staminate; bearing only male organs of whatever kind, or pertaining to individuals which bear them.

**MALE FLOWER**, staminate flower.

**MĀLPÍGHĪĀ'ĖEOŮS HAIRS**, stellate hairs attached by their middle, as in the order Malpigiaceæ.

**MĀLPÍGHĪĀN ĖĖLLS**, palisade-like cells in which one or more light lines are present, found in the seed-coats of Leguminosæ, Malvaceæ, etc.

**MĀM'MĪFŌRM**, breast-shaped.

**MĀMMĪL'LĀ** (pl. *Māmmil'læ*), a small nipple or teat-like prominence, as on some pollen-grains. More short and obtuse than Papilla. The term is sometimes applied to the apex of the nucleus of an ovule.

**MĀM'MĪLLĀTE**, nipple-shaped, or bearing mammillæ. Compare PAPILLATE.

**MĀM'MĪLLĀTĖD**, bearing mammillæ.

**MĀM'MŌSE**, breast-shaped, or bearing breast-shaped prominences.

**MĀN'ĪCĀTE**, having a coating of entangled hairs which may be removed entire. Compare FLOCCOSE and PANNOSE.

**MĀNŮ'BRIŮM** (pl. *MānŮ'briā*), a cylindrical cell which projects inward from the centre of each of the eight shields composing the wall of the globe in Characeæ. The manu-

- bria support the apparatus which contains the antherozoids.
- MÄR'BLEĐ**, covered with faint irregular wide stripes, or traversed by vein-like markings like those which occur in certain kinds of marble; marmorate.
- MÄRÇÈS'CÈNT**, withering but not falling off, as the corolla of lobelia.
- MÄR'ĞĪNAL VEIL**, in Hymenomyces (mushrooms, etc.), a membrane stretching from the margin of the pileus to the surface of the stipe in the young sporophore and covering the hymenium; velum partiale.
- MÄR'ĞĪNÄTE**, having a margin differing in texture, form, or color from the remainder of the surface; margined; edged.
- MÄR'ĞĪNED**, see MARGINATE.
- MÄRĪNE'**, growing in the sea or upon the immediate sea-shore. Compare LITTORAL and MARITIME.
- MÄR'ĪTĪME**, growing upon or near the sea-shore.
- MÄR'MÖRÄTE**, see MARBLED.
- MÄSKED**, see PERSONATE.
- MÄS'SÜLÄ** (pl. *Mäs'süläe*), one of the lumps of mucilage derived from the disorganized tapetum of the microsporangium of *Azolla* and enclosing a number of spores. Also applied to an adherent group of pollen-grains derived from a single mother-cell, as the ultimate groups in a pollen-mass in orchids, each containing four grains.
- MÄST**, a popular name for the fruit of the oak, chestnut, beech, and some other forest trees.
- MÄS'TÖID**, large tēat-shaped. (Rare.)
- MÄ'TRĪX**, the place or body upon or within which anything grows.
- MÄTTÜL'LA**, the fibrous material at the base of the petioles of palms; reticulum.
- MÄTÜRÈS'CÈNT**, approaching maturity.
- MÄTÜTĪ'NAL**, pertaining to the morning; expanding in the morning, as the flowers of morning-glory.
- MĒAL'Ÿ**, see FARINACEOUS.
- MĒ'DĪAL**, pertaining to the middle; median.
- MĒ'DĪAN**, see MEDIAL.
- MĒ'DĪAN LINE**, a line along the centre or axis of a bilateral organ, as along the midrib of a leaf.
- MĒ'DĪAN PLANE** of a flower or other lateral structure, the same as antero-posterior plane, i.e., a vertical plane which bisects an organ into right and left halves. The median plane of a leaf would pass through the midrib above and below. Compare LATERAL PLANE.
- MĒDÜL'LÄ**, pith; also central tissue of some other kinds, as of the thallus in lichens.
- MĒD'ÜLLÄRŸ**, pertaining to medulla or pith.
- MĒD'ÜLLÄRŸ RAYS**, vertical plates of cellular tissue in the fibrovascular system of exogens connecting the pith and the cortex. They form the glistening spots called "silver grain" which are seen on the surface of wood which is split radially. Only the rays formed the first season extend entirely to the pith. See XYLEM RAY and PHLOËM RAY.

**MĚD'ÜLLÄRÝ SHEATH**, the ring of primary xylem bundles which project into the pith. Compare CORTICAL SHEATH.

**MĚD'ÜLLÄRÝ SYSTEM**, a term sometimes applied to the whole fundamental system, but usually, and more properly, employed to include only the pith and medullary rays, or fundamental tissue within the cortex.

**MĚD'ÜLLÖSE**, pith-like.

**MĚGÁLÖGÖNĪD'ĪŮM**, see MACROSPORE.

**MĚGÄRHÝ'ZOŮS**, large-rooted.

**MĚGÄSPÖRÄN'GIŮM**, see MACROSPORANGIUM.

**MĚG'ÄSPÖRE**, see MACROSPORE.

**MĚI'OPHYLLÝ**, the suppression of one or more leaves or foliar organs in a whorl; miophylly. It differs from Abortion in the fact that the suppressed organs have never started to grow.

**MĚIÖSTĚM'ÖNOŮS**, having fewer stamens than petals. This is its usual meaning. Compare ISOSTEMONOUS.

**MĚI'ÖTÄXY**, the complete suppression of a whole set of organs, as all of the corolla or all of the stamens.

**MĚLÄNÖSPĚRM'ÖŮS**, having dark-colored seeds or spores.

**MĚLLĪF'ĚROŮS**, honey-bearing.

**MĚL'ÖN-SHÄPED**, oval, with depressed lines running from end to end, as in most muskmelons.

**MĚLT'ING**, easily dissolving in the mouth, or under slight pressure. A descriptive character in certain varieties of pears.

**MĚM'BĚR**, a term employed to designate any part of a plant when treated with reference to its position and fundamental structure, but not with refer-

ence to function. Thus, all leaves are one and the same *member*, though they may be developed in different ways to form different organs. Compare ORGAN.

**MĚMBRÄNÄ'ČEOŮS**, see MEMBRANOUS.

**MĚM'BRÄNE**, a very thin expanded tissue, serving the purpose of separation or protection.

**MĚMBRÄ'NĚOŮS**, see MEMBRANOUS.

**MĚM'BRÄNOŮS**, thin, soft, and usually translucent, like a membrane. Compare SCARIOUS.

**MĚNĪS'CÖID**, shaped like a meniscus or concavo-convex lens.

**MĚN'TŮM**, a forward projection of the foot of the column in some orchids.

**MĚR'ICÄRP**, one of the carpids or ripened carpels of a schizocarp, especially one of the halves of the cremocarp in Umbelliferae; diachænum; hemicarp.

**MĚR'IDĪSK**, a name proposed by Clos for any process upon the receptacle, aside from the floral organs, whether glandular or not. See LEPAL.

**MĚRĪSMÄT'IC**, dividing into parts by the formation of septa.

**MĚR'ISPÖRE**, one of the cells of a compound spore.

**MĚR'ISTĚM**, tissue in an early condition or nascent state while the cells are still undergoing cell-division, as in cambium; formative tissue; generating tissue.

**MĚR'ISTĚM, PRIMARY**, see PRIMARY MERISTEM.

**MĚR'ISTĚM, SECONDARY**, see SECONDARY MERISTEM.

**MĚŘISTĚMĀT ĪC**, consisting of meristem.

**MĚŘĪTHĀLL**, see INTERNODE.

**MĚŘITHĀL'LŪS** (obs.), see INTERNODE.

**MĚRŌBLĀS'TĪC**, applied to the formation of the embryo from a part only of the oösphere, as in some Gymnosperms.

**MĚS'ŌBLĀST** (obs.), see NUCLEUS.

**MĚS'ŌCĀRP**, the middle layer of a pericarp when distinguishable into three layers. This layer is sometimes developed as a sarcocarp. Applied mainly to stone-fruits.

**MĚS'ŌCHĪL**, the central part of the labellum in such orchids as have that organ separated into three distinct portions.

**MĚSŌPHLĒ'ŪM**, the middle or green layer of the bark, between the liber and the outer (usually dry) epiphloeum or corky layer; cellular-envelope.

**MĚS'ŌPHŸLL**, all the fundamental tissue of a leaf within the epidermis.

**MĚSŌPHŸL'LŪM**, see MESOPHYLL.

**MĚSŌPH'ŸTŪM** (obs.), see COLLAR. Also applied by Lindley to the line of demarcation between internode and petiole.

**MĚS'ŌSPĚRM**, see SECUNDINE.

**MĚS'ŌSPŌRE**, the middle coat of a spore when there are three.

**MĚSŌSTŸ'LOŪS**, having styles of intermediate length in heterostyled plants.

**MĚSŌTHĚ'ČĪUM**, the central of the three layers of cells in the coat of an immature anther; fibrous layer. The cells of this layer have annular thickenings. In the mature anther the proper endothecium has

often disappeared, leaving the mesothecium as the inner layer, which is then usually called endothecium.

**MĚS'TŌME**, a term applied by Schwendener to fibrovascular tissue on functional grounds, in distinction from cortical tissue, which (serving for support chiefly) he termed stereome. Strictly, however, the term mestome refers only to the essential or conductive portion of a bundle, the bundle-sheath being strengthening tissue and therefore stereome.

**MĚTĀB'ŌLĪSM**, the chemical changes which take place in a plant in the process of growth; metastasis; transmutation. It includes both Anabolism and Catabolism.

**MĚTĀGĚN'ĚSĪS**, the production of sexual individuals by non-sexual means, either directly or through intervening sexless generations; alternation of generations; polymorphism.

**MĚTĀKĪNĚ'SĪS**, that part of the metaphases in karyokinesis which includes only the separation of the threads.

**MĚT'ĀMĚR**, applied by Sachs to a Phytton (which see), or one of any number of similar parts connected in a series.

**MĚTĀMŌR'PHŌSĪS**, the varied development of members of the same morphological value, resulting from their adaptation to different functions. Compare TRANSFORMATION.

**MĚT'ĀPHĀŞĚŞ**, a term applied by Strasburger to those portions of karyokinesis which include the longitudinal splitting of the threads, the formation of the mother-star, and the subsequent separation of

the segments to form the daughter-stars.

**MĚT'ĀPLĀSM**, a name given by Hanstein to that part of the protoplasm which holds the formative material. Used by some synonymously with Deutoplasm.

**MĚTĀSPĚR'MOŮS**, see **ANGIOSPERMOUS**.

**MĚTĀS'TĀSIS**, see **METABOLISM**.

**MĚTĚŌR'IC**, applied to flowers whose opening or closing is influenced by the weather.

**MĚTĚ'CIOŮS**, see **HETERŔCIOUS**.

**MĚTĚ'ČISM**, see **HETERŔCISM**.

**MĚTŔX'ĚNOŮS**, see **HETERŔCIŔS**.

**MĪĀSMĀT'IC**, pertaining to infectious organisms floating in the atmosphere. See **INFECTION**.

**MĪČĚL'LĀ** (pl. *MĪčĚl'lĕ*), a term proposed by Nägeli for certain structural particles which serve for the building up of all plant and animal tissues. They are considered to be aggregations of molecules which, like crystals, are able to increase or diminish in size without chemical change.

**MĪCRĀN'DRE**, see **DWARF-MALE**.

**MĪ'CRŔBE**, a micro-organism, animal or vegetable. In use restricted chiefly to plants, especially the Schizomycetes, or bacteria and their allies. See **MICROPHYTE**.

**MĪ'CRŔČYST**, a resting state of certain swarm-cells in Myxomycetes.

**MĪCRŔGŔNĪD'ĪŮM** (pl. *MĪcrŔgŔnĪd'Īĕ*), applied to gonidia of smaller size than others produced by the same species;—they are usually male gonidia, as the so-called androspores of

*Ecdogonium*. In pteridophytes and their allies they are usually called microspores. See **MICROSPORE**.

**MĪCRŔG'RĀPHŔ**, the description or study of microscopic objects; micrology.

**MĪCRŔPHŔL'LOŮS**, having small leaves.

**MĪ'CRŔPHŔTE**, any plant, such as the bacteria and smaller species of fungi, which can be clearly seen only by means of a microscope.

**MĪ'CRŔPŔLE**, the nearly closed foramen as it exists in the ripened seed.

**MĪCRŔSŔ'MĀ** (pl. *MĪcrŔsŔ'mĕtĕ*), a name proposed by Strasburger for a class of granules in the protoplasm which have a high degree of refringency and are deeply stained by hæmatoxylin.

**MĪCRŔSPŔRĀN'ĜĪŮM** (pl. *MĪcrŔspŔrĀn'ĜĪĕ*), a sporangium containing microspores.

**MĪ'CRŔSPŔRE**, a small male spore, as in *Rhizocarpæ*, *Selaginellæ*, and *Isoetæ*. See **MICROGONIDIUM**. Compare **MACROSPORE**.

**MĪ'CRŔSTŔME**, a small mouth or orifice.

**MĪCRŔSTŔ'LOŮS**, applied to that form in heterostyled plants in which the flowers have short styles and long filaments. The expressions "long-styled," "medium- or mid-styled," and "short-styled" are preferable to *Macrostylous*, *Mesostylous*, and *Microstylous*, and are more frequently used.

**MĪCRŔZŔŔGŔNĪD'ĪŮM**, a motile microgonidium, as in *Ulothrix*, differing from a macrozoogonidium in size and in having the power of conjugation.

**MĪ'CRŌZŪME**, a microscopic organism capable of producing fermentation.

**MĪD'DLE LĀMĒL'Ā**, the portion of a lignified cell-wall which occupies the place of the primary membrane. It usually appears as a fine dividing line between adjoining cells. Compare MIDDLE LAMINA.

**MĪD'DLE LĀM'ĪNĀ**, the portion of a lignified cell-wall between the middle lamella and the inner lamina.

**MĪD'RĪB**, the large central vein of a leaf, which usually exists as a ridge continuous with the petiole.

**MĪLK**, see LATEX.

**MĪLK-SĀC**, a form of laticiferous vessel existing in some species of maple.

**MĪLK-SĀP**, see LATEX.

**MĪLK-VĒS'SĒL**, see LATICIFEROUS VESSEL.

**MĪMĒT'ĪC**, pertaining to mimicry.

**MĪM'ĪCRŪ**, special resemblance to another object, serving usually for protection, as when plants bear a marked resemblance in color to the soil in dry regions, thus being less liable to be seen and eaten by animals.

**MĪN'ĪATE**, vermilion-colored.

**MĪ'ŌPHŪLLŪ**, see MEIOPHYLLY.

**MĪŌSTĒM'ŌNOŪS**, see MEIOSTEMONOUS.

**MĪTŌ'SIC**, pertaining to, characterized by, or exhibiting mitosis; mitotic.

**MĪTŌ'SIS**, (1) the splitting of the chromatin of the nucleus (karyomitosis) or the subdivision of any minute granular body found in protoplasm; (2) a figure occurring during mitosis as a result of that process.

**MĪTŌT'ĪC**, see MITOSIC.

**MĪ'TRE-SHAPED**, see MITRI-FORM.

**MĪT'RĪFŌRM**, conical and slightly narrowed toward the mouth like a pope's mitre. Also the same as Cūcullate, but not slit upon one side; mitre-shaped.

**MĪXED ĪNFLŌRĒS'CEŅCE**, one in which each partial inflorescence develops in a reverse order from that of the general inflorescence, as in Compositæ where the general inflorescence is usually centrifugal, the terminal "flower" opening first, while each head is centripetal, the marginal florets being first developed.

**MĪXED VĒS'SĒLS**, those having thickenings in their walls of more than one kind, as both spiral and annular thickenings.

**MŌ'BĪLE**, movable.

**MŌL'LĪS**, soft.

**MŌNĀDĒL'PHŌŪS**, having the filaments free, and united in a ring around the pistil, as in most Malvaceæ.

**MŌNĀN'DROŪS**, having but a single stamen.

**MŌNĀN'THOŪS**, having but one flower upon a plant or peduncle.

**MŌNĀS'TĒR**, see MOTHER-STAR.

**MŌNĒ'ÇIOŪS**, see MONECIOUS.

**MŌN'GRĒL**, properly, a cross. Usually applied in the United States to inferior mixed breeds resulting from unknown or heterogeneous crossing.

**MŌNĪL'ĪFŌRM**, necklace-shaped; cylindrical, and contracted at regular intervals so as to resemble a string of beads. Compare NODOSE.

**MONO-**, a Greek prefix, meaning one or single.

**MŌN'ŌCĀRP**, an annual or other plant that fruits but once.

**MŌNŌCĀR'PĚLLĀRŸ**, of one carpel; monogynous.

**MŌNŌCĀR'PIAN**, see MONOCARPIC.

**MŌNŌCĀR'PĪC**, bearing fruit but once. Compare POLYCARPIC.

**MŌNŌCĀR'POŮS**, said of a flower in which the gynoecium forms but one ovary, whether simple or compound. Compare POLYCARPOUS.

**MŌNŌČĚL'LŪLAR**, see UNICELLULAR.

**MŌNŌČĚPH'ĀLOŮS**, in single heads, or having one head. Applied to an ovary with but one style, or to flowers disposed in single umbels or other clusters.

**MŌNŌCHĀ'SĪAL**, in single dichasia. See DICHASIUM and COMPOUND DICHASIUM.

**MŌNŌCHĀ'SĪŮM**, a uniparous cyme. Compare DICHASIUM.

**MŌNŌCHLĀMŸD'ĚOŮS**, having but one floral envelope or perianth-whorl. As this is usually clearly a calyx, and as in doubtful cases it is considered so, the term is often equivalent to Apetalous. Compare ACHLAMYDEOUS.

**MŌNŌCHRŌ MĪC**, see UNICOLOR.

**MŌNŌC'LĪNOŮS**, see HERMAPHRODITE. Compare DICLINOUS.

**MŌNŌCŌTŸLĚD'ONOŮS**, having but one cotyledon or seed-leaf. A term applied to endogens.

**MŌNŌČŸC'LĪC**, of a single whorl.

**MŌNĚ'ČIOŮS**, having stamens and pistils in separate flowers on the same plant.

**MŌNĚ'ČIOŮSLŸ PŌLŸG'ĀMOŮS**, having perfect and separated flowers on the same plant.

Compare DICECIOSLY POLYGAMOUS.

**MŌNŌG'ĀMOŮS**, see HOMOGAMOUS.

**MŌNŌG'ŸNOŮS**, having but one pistil or style. There may be several carpels.

**MŌNŌI'COŮS** (obs.), see MONÆCIOUS.

**MŌNŌLŌC'ŮLAR**, see UNILOCULAR.

**MŌNŌM'ĚROŮS**, of one part, as a flower having but one organ of each kind, one pistil, one stamen, etc.; applied also to tubers having but one internode.

**MŌNŌPĚT'ALOŮS**, see GAMOPETALOUS.

**MŌNŌPHŸL'LOŮS**, see GAMOPHYLLOUS.

**MŌN'ŌPŌDE**, see MONOPODIUM.

**MŌNŌPŌD'ĪĀL**, having a single main axis, as ordinary plants. Compare SYMPODIAL and DICHOTOMOUS.

**MŌNŌPŌ'DĪŮM**, an axis of growth which continues to elongate at the apex, while lateral structures of like kind are produced beneath it in acropetal succession. Compare SYMPODIUM and DICHOTOMY.

**MŌNŌP'TĚROŮS**, one-winged.

**MŌNŌSĚP'ALOŮS**, see GAMOSEPALOUS.

**MŌNŌSĪ'PHŌNOŮS**, said of a frond in Florideæ when it consists of but a single row of cells.

**MŌNŌSPĚR'MOŮS**, one-seeded. Compare POLYSPERMIOUS.

**MŌNŌS'TĪCHOŮS**, in one vertical rank.

**MŌNŌSTŸ'LOŮS**, having but one style.

**MŌNŌSŸMMĚT'RĪCAL**, capable of division in but one direction into similar halves, as the

- flower of the pea; zygomorphous. Compare SYMMETRICAL and POLYSYMMETRICAL.
- MŌNŌTHĀL'ĀMOŪS**, unilocular; applied to galls and rarely (Tuckerman) to the apothecia of lichens.
- MŌNŌTHĀL'MĪC**, derived from a single flower, as ordinary fruits. Compare POLYTHALMIC.
- MŌNŌTŪP'ĪC**, said of a genus which contains but one species, or of the species itself in such a case.
- MŌN'STĒR**, a plant or animal having any marked abnormal development in form; monstrosity. See SPORT and TERATOLOGY.
- MŌNSTRŌS'ĪTŪ**, see MONSTER.
- MŌN'STROŪS**, developed in a remarkably abnormal manner. The term has no reference to size.
- MŌP-HĒAD ĒD**, said of a tree without a leader and with an unusually large number of small branches.
- MŌRPHŌGĒN'ĒSĪS**, the production of morphological characters.
- MŌRPHŌL'ŌGŪ**, the science of the homologies and metamorphoses of members. It treats, for example, of the different forms which leaves assume in different plants, and in the same plant to serve different purposes.
- MŌS'CHĀTE**, having an odor like that of musk.
- MOTHER-CELL**, one from which another is derived.
- MOTHER-STĀR**, a stage of karyokinesis in which the nuclear threads lie in the equator of the nucleus, usually in the form of loops, with their free ends pointing away from the centre; monaster; nuclear disk; nuclear plate; equatorial plate.
- MŌT'TLED**, covered with partially confluent dots, or with blotches of varying intensity. Applied mainly to fruits.
- MOUN'TAINŌŪS**, see ALPES-TRINE.
- MŌVEMENTS OF VĀRIĀTION** (Peffer), see ALLASSOTONIC MOVEMENTS.
- MŪÇĒD'ĪNOŪS**, mould-like.
- MŪ'CĪLĀGE**, dissolved vegetable jelly; any slimy vegetable product.
- MŪCĪLĀG'ĪNOŪS**, slimy, or yielding mucilage; mucous.
- MŪ'COŪS**, see MUCILAGINOUS.
- MŪ'CRŌ**, a short sharp point.
- MŪ'CRŌNĀTE**, terminating abruptly in a short stiff point.
- MŪCRŌN'ŪLĀTE**, diminutive of Mucronate; ending abruptly in a minute stiff point.
- MŪLE**, see HYBRID. The term Mule is by some restricted to genus-hybrids and by others to sterile hybrids of any origin. The term is now useless in botany.
- MŪLTĀN'GŪLAR**, having more than four angles; polygonal.
- MŪLTĪ**, a Latin prefix denoting many.
- MŪLTĪÇĪP'ĪTĀL**, many-headed; applied to a root or root-stock from which several stems arise.
- MŪLTĪCŌS'TĀTE**, having many ribs proceeding from the base of the leaf.
- MŪLTĪCŪS'PĪDĀTE**, having many cusps or points.
- MŪLTĪDĒN'TĀTE**, having many teeth.
- MŪLTĪFĀ'RĪŌŪS**, (1) diversified, or composed of many diverse parts; (2) arranged in many ranks or rows.

**MŮLTÍF'ĚROŮS**, producing fruit several times in a season.

**MŮL'TÍFĪD**, cut about half way to the midrib into many segments; many-cleft.

**MŮLTÍFLŌ'ROŮS**, many-flowered.

**MŮLTÍFŌ'LIĀTE**, having numerous leaflets.

**MŮLTÍJŮ'GĀTE**, having many pairs of leaflets.

**MŮLTÍLĀT'ĚRAL**, many-sided.

**MŮLTÍLŌC'ŮLAR**, many-celled: applied mainly to ovaries or pericarps.

**MŮLTÍLŌC'ŮLAR SPŌRE**, see COMPOUND SPORE.

**MŮLTÍNŮ'CLĚĀTE**, having more than one nucleus in a cell.

**MŮLTÍPĀR'TĪTE**, divided into many parts.

**MŮL'TÍPLE**, compound.

**MŮL'TÍPLE CŌRŌL'LĀ**, one having more than one whorl of petals, as in "double" flowers.

**MŮL'TÍPLE FRŮIT**, see COLLECTIVE FRUIT.

**MŮL'TÍPLE - PRĪMĀRŸ ROOT**, one having several main divisions from the crown, as the fascicled root of dahlia.

**MŮL'TÍPLĪCĀTE FLOW'ER**, see DOUBLE FLOWER.

**MŮLTĪRĀ'DĪĀTE**, having many rays.

**MŮLTĪRĀMŌSE'**, having many branches.

**MŮLTĪSĚP'TĀTE**, having numerous septa.

**MŮLTĪSĚ'RĪĀL**, in several horizontal rows. Compare MULTISTICHŌUS.

**MŮLTĪS'TĪCHOŮS**, in several or many vertical rows.

**MŮ'RĀL**, growing upon walls.

**MŮ'RĪCĀTE**, covered with short, sharp points. Compare SCABROUS.

**MŮRĪC'ŮĪĀTE**, slightly muricate.

**MŮRĪFŌRM**, arranged like courses of bricks or stones in a wall, as the cells in medullary rays.

**MŮSCĀRĪFŌRM**, having long hairs toward the end like an ancient fly-flap, as the styles of some Compositæ. Compare ASPERGILLIFORM.

**MŮS'ČĪFŌRM**, moss-like.

**MŮSCŌL'ŌĞŸ**, see BRYOLOGY.

**MŮ'TICOŮS**, pointless; blunt. Mainly in distinction from Awned or Mucronate.

**MŮ'TŪĀLIŠM**, see SYMBIOSIS.

**MŮ'TŪĀL PĀRĀSĪ'TIŠM**, see SYMBIOSIS.

**MŸCĚ'LĪĀL STRĀND**, see FIBROUS MYCELĪUM.

**MŸCĚ'LĪŮM**, the vegetative portion of a fungus, consisting of one or more hyphæ.

**MŸCĚTŌĞĚNĚT'IC**, produced by fungi.

**MŸCĚTŌĞĚNĚT'IC MĚTĀMŌR'-PHŌSĪS**, deformation due to a parasitic fungus.

**MŸCĚTŌ'LŌĞŸ**, see MYCOLOGY.

**MŸCŌL'ŌĞŸ**, the botany of fungi.

**MŸCŌPRŌ'TĚĪN**, a term sometimes applied to the peculiar protoplasm of which the putrefactive bacteria are composed.

**MŸCŌRRHĪ'ZĀ**, a term applied by Frank to a symbiotic relation supposed to exist between the roots of many plants and the mycelium of certain fungi in soils containing a large amount of humus.

**MŸCŌ'SĪS**, the presence of parasitic fungi in a plant or animal,

together with the morbid effects of their presence.

**MŶCÔPRÔ'TĒĪN**, a term sometimes applied to the peculiar protoplasm of which the putrefactive bacteria are composed.

**MŶCRÔPŶLE**, see MICROPYLE.

**MŶXÂMCĒ/BĒ**, zoöspores in Myxomycetes having an amœboid or creeping motion.

**MŶX'ÔSPÔRE**, a spore produced in the midst of a gelatinous mass without distinct ascus or basidium.

**NÂ'KĒD**, destitute of the usual covering, as a cell without a wall, a stem without leaves, a flower without floral envelopes.

**NÂ'KĒD-SEEDED**, see GYMNO-SPERMOUS.

**NÂ'NÂ'N DROŪS**, having short or dwarf male plants. Applied to certain algæ.

**NÂ'NĪŠM**, a dwarf condition.

**NÂ'NŪS**, dwarf. Compare HUMILIS.

**NÂ'PĪFÔRM**, turnip-shaped; i.e., depressed-globose and tapering below, like most varieties of turnip.

**NÂS'CENT**, in the earliest rudimentary condition.

**NÂS'CENT TĪS'SŪE**, see MERISTEM.

**NÂ'TANT**, floating unattached in or upon water. Compare FLUTANT.

**NÂT'ŪRAL GRÂFT'ĪNG**, see INARCHING.

**NÂT'ŪRALĪZED**, introduced from another country, but fully established, growing and reproducing itself spontaneously. Compare ADVENTITIOUS.

**NÂT'ŪRAL ÔR'DĒR**, see ORDER.

**NÂT'ŪRAL SŶS'TĒM**, the system of classification introduced by

A. L. de Jussieu and now in general use, which takes into account all parts of the plant, and seeks to place each species or other group nearest to those which in all respects it most resembles. Compare ARTIFICIAL SYSTEM.

**NAŬ'TĪFÔRM**, see NAVICULAR.

**NÂVĪC'ŪLAR**, boat-shaped, or like the hull of a ship, as the glumes of many grasses; naviculoid; nautiform; cymbæiform; cymbiform; scaphoid.

**NÂVĪC'ŪLOID**, see NAVICULAR.

**NĒB'ŪLÔSE**, clouded.

**NĒCK**, the line of junction between root and stem (collar); the upper tapering end of a bulb; the narrow part of a pear, toward the base; the upper end of the sheathing petiole in grasses; the upper part of the tube of a gamopetalous corolla (throat); the prolonged apex of a pyrenocarp; the outer portion of an archegonium containing the canal, etc.

**NĒCK'LÂÇE-SHÂPED**, see MONILIFORM.

**NĒCRÔG'ĒNOŪS**, hastening or producing death. A term formerly applied to certain parasitic fungi.

**NĒC'TAR**, a sweet secretion by some part of a flower.

**NĒC'TAR-GŪIDE**, a term applied to various color-marks on flowers which seem designed to indicate to insects the locality of the nectar; nectar-spot; nectar-mark; honey-guide; honey-spot; pathfinder.

**NĒCTARĪF'ĒROŪS**, secreting nectar, or having a nectary.

**NĒCTÂ'RĪŪM**, see NECTARY.

**NĒC'TAR-MÂRK**, see NECTAR-GUIDE.

**NĚCTARŌTHĚ'ČĀ**, a spur or other receptacle containing a nectary. (Obs.)

**NĚC'TAR-SPŌT**, see NECTAR-GUIDE.

**NĚC'TĀŘŮ**, the part of a flower which secretes nectar. Applied especially to spur-shaped appendages to the petals containing nectar, as in the columbine, and sometimes used for similar organs which contain no nectar.

**NĚE'DLE-SHĀPED**, see ACEROSE and ACICULAR.

**NĚĜ'ĀTĪVE ĜĚŌT'RŌPĪŠM**, see APOGEOTROPISM.

**NĚĜ'ĀTĪVE HĚLĪŌT'RŌPĪŠM**, see APHELIOTROPISM.

**NĚĜ'ĀTĪVELY HĚLĪŌTRŌP'ĪC**, see APHELIOTROPIC.

**NĚĜ'ĀTĪVELY RHĚŌTRŌP'ĪC**, said of an organ (usually a root) when it tends to grow in a direction opposite to that of a current of water in which it is placed, as the roots of maize. (Jönsson.)

**NĚMĀTHĚ'ČĪŮM** (pl. NĚmāthĚ'čĭā), a wart-like group or mass of tetraspores in Florideæ.

**NĚM'ĀTOID**, thread-like; filamentous.

**NĚMĚŌŮS**, composed of threads or filaments; filamentose. (Obs.)

**NĚM'ŌRŌSE**, growing in groves.

**NĚPH'RŌID**, see RENIFORM.

**NĚRV'ĀTE**, see NERVED.

**NĚRVĀ'TION**, the manner in which the nerves of a leaf are arranged; venation.

**NĚRVE**, a term formerly in general use for the veins of monocotyledons, now mainly used for the veins (when moderately developed) on the floral enve-

lopes of grasses. Compare VEIN and RIB.

**NĚRVED**, having nerves instead of veins; nervate.

**NĚRVŌSE'**, abounding in nerves.

**NĚST'LING**, see NIDULANT.

**NĚT'TĚD**, see RETICULATED.

**NĚŮRĀ'TION**, see NERVATION.

**NĚŮTĚR**, having neither stamens nor pistils; neutral. Said of a plant or flower.

**NĚŮ'TRAL**, see NEUTER.

**NEW SPĚ'ČĪĚŠ**. A species is considered new when its name and description are published for the first time. The botanical name is then followed by the words "new species," or their abbreviation ("n. s." or "n. sp." in English, "sp. nov." in Latin), without the name of the author, the writer of the description being understood to be the author of the name. When the name is republished in any manner the species is no longer considered new, and the name of its author is then appended.

**NĚD'ŮLĀNT**, embedded in pulp or other loose material, or partly enclosed in a receptacle; nestling.

**NĚDŮS**, a suitable place for a spore or seed to germinate.

**NĚĜĚR**, black and either glistening or slightly tinged with gray. Compare ĀTER.

**NĚĜRĚS'CENT**, becoming black or blackish; nigricant.

**NĚĜ'RĪCĀNT**, see NIGRESCENT.

**NĚT'ĪD**, smooth and shining; bright; lustrous. Compare LUCID and LEVIGATE.

**NĚT'ĪDŮS**, see NITID.

**NĚV'ĚŌŮS**, snow-white; pure white. A clearer and purer white than Candidus.

**NŌCTŪR'NAL**, lasting through a night, or occurring at night.

**NŌD'DĪNG**, see **CERNOUS**.

**NŌDE**, the place on a stem where one, two, or more leaves are attached; any knot or swelling; a point of intersection, as of threads in reticulated protoplasm.

**NŌDĪF'ĒROŪS**, bearing nodes.

**NŌDŌSE'**, knotted; with swollen joints; swollen at intervals. Compare **MONILIFORM**.

**NŌD'ŪLE**, a small knot or rounded body.

**NŌD'ŪLŌSE**, diminutive of **Nodose**.

**NŌR'MAL**, according to rule; usual; of the ordinary type or structure.

**NŌSŌL'ŌGŸ**, **VEGETABLE**, see **VEGETABLE NOSOLOGY**.

**NŌT'ATE**, marked by colored spots or lines.

**NŌTŌRHĪ'ZAL**, see **INCUMBENT**.

**NŌTŌTRĪBE**, said of an irregular flower when arranged so that the pollen from the stamens strikes the back of a visiting insect. Compare **STERNOTRIBE** and **PLEUOTRIBE**.

**NŪCĀMĒNTĀ'CEOŪS**, nut-like, or pertaining to nuts.

**NŪCĀMĒN'TŪM** (obs.), see **AMENT**.

**NŪÇĒL'LŪS**, the nucleus of an ovule.

**NŪÇĪF'ĒROŪS**, nut-bearing.

**NŪÇĪFŌRM**, nut-shaped; nucamentaceous.

**NŪ'CLĒAR**, pertaining to a nucleus.

**NŪ'CLĒAR BĀR'RĒL**, a stage in karyokinesis, immediately preceding the nuclear spindle.

**NŪ'CLĒAR DĪSK**, see **MOTHER-STAR**.

**NŪ'CLĒAR FĪBRĪLS**, see **SPINDLE-FIBRES**.

**NŪ'CLĒAR FĪL'AMENT**, a general term for the chromatin of a nucleus, which in karyokinesis appears as segments of a filament, and in the resting state as a filamentous network; chromatic filament. See **CHROMOSOME**.

**NŪ'CLĒAR PLĀTE**, see **MOTHER-STAR**.

**NŪ'CLEAR SPĪN'DLE**, a spindle-shaped achromatic figure in the nucleus during cell-division, consisting of slender filaments which cross the equator or extend toward it from the poles. It begins to appear in the skein stage, and is completed in the mother-star stage.

**NŪ'CLĒAR STĀR**, see **ASTER**.

**NŪ'CLĒAR THRĒADS**, see **SPINDLE-FIBRES**.

**NŪ'CLĒĀTĒD**, having a nucleus.

**NŪ'CLĒĪN**, usually employed in the sense of chromatin. By some authors there is believed to be a distinct chemical substance, a form of protoplasm, which is termed nuclein.

**NŪ'CLĒŌLĀTĒD**, having a nucleolus.

**NŪ'CLĒŌLE**, see **NUCLEOLUS**.

**NŪCLĒ'ŌLŪS** (pl. **Nūclē'ōli**), any distinct body of considerable size within a nucleus—not a definite and constant organic structure. There may be more than one.

**NŪ'CLĒŌPLĀŠM**, the more fluid protoplasm of the nucleus between the nuclear threads; karyoplasm.

**NŪ'CLĒŪS**, (1) an organized structure within the living cell by means of which cell-division takes place. It is usually spherical in form, richer in

protoplasm, and of higher refractive power than the remaining cell-contents; (2) the part of the ovule containing the embryo-sac (nucellus); (3) any organic centre, as the hilum of a starch-grain.

**NŮ'CLĚŮS OF THE EMBRYO-SAC**, see SECONDARY NUCLEUS.

**NŮCŮLĀ'NĪŮM**, a term sometimes applied to fruits like the medlar which contain several nut-like seeds or carpels.

**NŮ'CŮLE**, (1) the female organ in Chara; (2) any small nut-like seed or pericarp.

**NŮDE**, see NAKED.

**NŮDĪCAŮ'LOŮS**, having no leaves on the stem.

**NŮ'MĚROŮS**, too many to be readily counted; indefinite.

**NŮRSE** (Hort.), a shrub or tree which serves for the temporary protection of a younger tree or plant.

**NŮT**, the fruit of certain trees and shrubs, consisting of a hard shell enclosing the seed; —also applied to other small nut-like fruits, as those of Carex, Rumex, and Lithospermum. These latter are more properly called nutlets. See GLANS.

**NŮ'TANT**, see CERNOUS.

**NŮTĀ'TION**, the motion of a flower, leaf, or growing stem in following the apparent movement of the sun from east to west during the day; simple nutation. Compare CIRCUMNUTATION.

**NŮT'LĚT**, a small nut, or nut-like seed or fruit, as many achenia.

**NŮTRĪ'TION** includes the absorption, elaboration, distribution, and final assimilation

of plant-food resulting in growth.

**NŮX**, see NUT.

**NŮYTŮTRŮP'ĪC**, applied to the movements of organs which occur at night, or upon the approach of night, producing what is called the "sleep" of plants.

**NŮYTŮT'RŮPĪŠM**, the so-called "sleep" of plants.

**OB-**, inversely.

**ŎBCLĀ'VĀTE**, clavate in shape, but attached by the large end.

**ŎBCŌMPRĚSSĚD'**, flattened in the reverse of the usual direction, as when a legume is flattened so that the dorsal and ventral sutures approach each other. Compare DEPRESSED.

**ŎBCŌN'ĪC**, conical, but attached at the apex instead of the base; inversely conical. Also applied improperly in pomology to a fruit which has the form of a very short or flattened cone.

**ŎBCŌN'ĪCAL**, see OBCONIC.

**ŎBCŌR'DĀTE**, inversely heart-shaped, i.e., with the attachment at the small end.

**ŎBDĪPLŌSTĚM'ŌNOŮS**, diplostemonous, with the stamens of the outer whorl opposite to the petals.

**ŎBĪM'BRĪCĀTE**, (1) having overlapping scales directed downward or backward; (2) having the outer scales in an involucre progressively longer than the interior ones.

**ŎBLĀN'ĚĚŌLĀTE**, lanceolate in form, but tapering toward the base instead of toward the apex.

**ŎBLĀTE'**, flattened or depressed at the ends or poles. Compare PROLATE.

**ÖB'LĪGĀTE**, necessary; essential.

Compare **FACULTATIVE**.

**ÖB'LĪGĀTE-PĀR'ĀSITE**, an organism to which a parasitic life is indispensable for the attainment of its development. Compare **FACULTATIVE PARASITE**.

**ÖBLĪQUE'**, (1) occupying a position between horizontal and erect; (2) having one side extending farther forward than the other; (3) having one side more developed than the other, as many leaves and some fruits; unsymmetrical. In pomology, **Oblique** is used in the second sense only, the third being called **Angular**.

**ÖBLĪTĒRĀ'TION**, see **SUPPRESSION**.

**ÖB LÖNG**, longer than wide, with nearly parallel sides. Compare **OVAL**.

**ÖBÖ VAL**, sometimes used improperly for **Obovate**.

**ÖBÖ VĀTE**, ovate with the attachment at the narrow end.

**ÖBÖ VÖID**, ovoid, and attached by the small end. Sometimes used incorrectly for somewhat obovate.

**ÖB SÖLĒTE**, suppressed, or very rudimentary; scarcely apparent. See **ABORTIVE**.

**ÖBTŪSE'**, having a rounded end or apex; blunt. Compare **ACUTE**.

**ÖBVĀL'LĀTE**, appearing as though surrounded by a wall.

**ÖBVĒRSE'**, inverse; reverse;—as a leaf which is narrowest at the base.

**ÖB VÖLŪTE**, a modification of **Convolute** in which the entire halves of adjoining organs successively overlap or enfold each other. Half-equant is one form of this condition.

**ÖÇĒL'LĀTE**, see **OCELLATED**.

**ÖÇĒL'LĀTĒD**, having a circular patch of color with a spot of another color within it like an eye; ocellate; oculate.

**ÖÇĒL'LŪS**, a circular spot, resembling an eye.

**ÖCHRĀ'ÇEOŪS**, brownish yellow; yellowish.

**Ö'CHRĒĀ** (pl. **Ö'chrēā**), see **OCREA**.

**Ö CHRĒĀTE**, see **OCREATE**.

**ÖCHRŌLEŪ COŪS**, yellowish white; whiter than **Ochraceous**.

**Ö'CRĒĀ** (pl. **Ö'erēā**), a sheath formed by a stipule or pair of stipules united around the stem, as in **sycamore**.

**Ö'CRĒĀTE**, having **ocreae**.

**ÖCTĀG'YNOŪS**, see **OCTOGYNOUS**.

**ÖCTĀM'ĒROŪS**, having the parts in eights, as a flower with eight petals, eight stamens, etc.

**ÖCTĀN DROŪS**, having eight stamens.

**OCTO-** (or **OCTA-**), (from the Greek,) eight.

**ÖCTÖG'YNOŪS**, having eight pistils or styles; octagynous.

**ÖCTÖLÖC'ŪLAR**, having eight cells or compartments in a fruit or pericarp.

**ÖCTÖPĒT'ALOŪS**, having eight petals.

**ÖCTÖRĀ'DIĀTE**, having eight rays, as some ligulate flowers.

**ÖCTÖSPĒR MOŪS**, eight-seeded.

**ÖC'TÖSPÖRE**, an eight-fold tetraspore. Formerly applied to the oogonium of *Fucus vesiculosus*, which contains eight oöspores.

**ÖC'TÖSPÖROŪS**, containing eight spores, as most asci.

**ÖC ŪLĀTE**, see **OCELLATED**.

**ÖDD'LŸ PĪN'NĀTE**, see **IMPARI-PINNATE**.

**ŌFFĪČ'ĪNAL**, used in medicine or the arts.

**ŌFF'SĚT**, a short lateral branch or stolon proceeding from the base of the plant, which serves or may serve for propagation. It usually takes root of itself. Lateral bulbs are also called offsets.

**ŌFF'SHŌŮT**, an offset, or lateral branch.

**OIL-TUBE**, see **VITTA**.

**ŌLĚÁĜ'ĪNOŮS**, oily.

**ŌLĚRÁ'ČEOŮS**, esculent; used for food; applied mainly to garden vegetables.

**ŌLĪGÁN'DROŮS**, having few stamens; oligostemonous.

**ŌL'ĪGÁRCH**, applied to a fibrovascular cylinder having few rays, i.e., containing or representing few fibrovascular bundles.

**ŌLĪGŌPHÝL'LOŮS**, having few, or comparatively few, leaves.

**ŌLĪGŌSPĚR'MOŮS**, few-seeded.

**ŌLĪGŌSTĚM'ŌNOŮS**, see **OLIGANDROUS**.

**ŌLĪVÁ'ČEOŮS**, dusky green.

**ŌMNÍV'OROŮS**, applied to a parasitic fungus which attacks many kinds of plants.

**ŌM'PHÁLŌDE**, see **OMPHALODIUM**.

**ŌMPHÁLŌ'DĪŮM** (pl. *Ōmphālō'diā*), the central part of the hilum, containing the vessels which enter the raphe or chalaza.

**ONE-SĪD'ĚD**, see **SECUND**, **UNILATERAL**, and **HOMOMALOUS**.

**ŌNTŌG'ĚNÝ**, the study of the development of an individual through all its stages. Compare **PHYLOGENY**.

**Ō'ŌČÝST**, a female organ or oogonium of doubtful nature.

**ŌŌĜ'ÁMÝ**, the conjugation of gametes which are dissimilar in form. Compare **ISOGAMY**.

**ŌŌĜŌ'NĪŮM** (pl. *Ōŏgŏ'niā*), the female sexual organ in *Oösporeæ* before fertilization, containing one or more oöospheres, as in *Peronospora*.

**ŌŌ-NŮ'CLĚŮS**, the nucleus of an oösphere. Compare **SPERMOCULEUS**.

**Ō'ŌPHŌRE**, the first or sexual stage or generation in plants having an alternation of generations, as ferns; oöphyte. Compare **SPOROPHORE**.

**ŌŌPHŌRĪD'ĪŮM** (pl. *Ōŏphŏrĭd'ĭā*) (obs.), see **MACROSPORANGIUM**.

**Ō'ŌPHÝTE**, see **OÖPHORE**.

**Ō'ŌSPĚRM**, see **OÖSPORE**.

**Ō'ŌSPHĚRE**, the oöspore previous to fertilization; i.e., the cell or protoplasmic mass which after fertilization becomes the oöspore.

**Ō'ŌSPŌRÁŇGE**, see **OÖSPORANGIUM**.

**ŌŌSPŌRÁN'ĜĪŮM** (pl. *Ōŏspŏrān'ġiā*), an old term for oögonium.

**Ō'ŌSPŌRE**, a fertilized oösphere; oöspERM. As a result of fertilization the oösphere, thus changed to an oöspore, takes on a firm cell-wall and acquires the power of germination.

**ŌPÁQUE'**, having a dull surface; neither transparent nor shining.

**Ō'PEN**, applied to fibrovascular bundles which always contain cambium capable of further growth, as in exogens. Compare **CLOSED**.

**ŌPĚR'CŪLAR**, like an operculum; operculate.

**ŌPĚR'CŪLÁTE**, having an operculum. Compare **DEOPERCULATE**.

**ÔPĚR'CŪLŪM**, (1) a transversely dehiscent lid or cap, like that covering the capsule of many mosses; (2) the lid of a pitcher-shaped leaf.

**ÔPĪS'THÔDAL**, posterior; applied to the inner or posterior opening of a stoma. Compare **EISODAL**.

**ÔP'PÔSITE**, opposed in position. Said, for example, of leaves when situated over against each other in pairs at the same height upon the stem. One floral organ, however, is *opposite* another when it is superposed to it, i.e., when it stands between it and the axis. Compare **ALTERNATE**.

**ÔPPÔŠĪTĪFĹ'ROŪS**, having opposite peduncles.

**ÔPPÔŠĪTĪFŌ'LĪOŪS**, (1) having opposite leaves; adversifolious; (2) situated opposite a leaf, as the tendrils in the grape.

**ÔP'PÔŠĪTELŲ'PĪN'NĀTE**, having leaflets in pairs.

**ÔRBĪC'ŪLAR**, circular in outline, or nearly so; orbiculate.

**ÔRBĪC'ŪLĀTE**, see **ORBICULAR**.

**ÔR'DĚR**, a division of a class containing one or more genera; family.

**ÔR'DĪNAL**, pertaining to an order.

**ÔR'GAN**, any part having a special function, as a leaf or stamen. Compare **MEMBER**.

**ÔRGĀN'ĪC ČĚN'TRE**, a point or axis around which growth takes place. It may not remain the mathematical centre.

**ÔRGĀNŌG'ĚNŲ**, the origin and development of organs; organogenesis.

**ÔRGĀNŌG'RĀPHŲ**, the study of organs.

**ÔRGĀNŌPLĀS'TĪC**, having the

power of producing organs, as *organoplastic* tissue.

**ÔR'GANŠ OF RĚPRŌDŮC'TION**, those whose chief function is to serve directly or indirectly in the production of seeds or spores. In the higher plants the stamens and pistils are usually indicated by the term.

**ÔR'GANŠ OF VĚĚTĀ'TION**, those which minister to the growth of the whole plant: roots, stem, and leaves.

**ÔRĪĚNTĀ'TION**, strictly, facing the east. Used in horticulture for the setting of transplanted trees facing the same way as they stood originally. Used in botany for assuming any definite direction with respect to the points of the compass or to the axis of the plant or organ.

**ÔR'MŌGŌN**, see **HORMOGONIUM**.

**ÔRTHŌPLŌ ČEOŪS**, having duplicate cotyledons. (Obs.)

**ÔRTHŌS'TĪCHŲ**, a vertical row of organs. Compare **PARASTICHŲ**.

**ÔRTHŌS'TŌMOŪS**, having a straight opening.

**ÔRTHŌT'RŌPAL**, see **ORTHOTROPOUS**.

**ÔRTHŌTRŌP'ĪC**, growing erect, as stems in contrast with leaves, etc. Compare **PLAGIOTROPIC**.

**ÔRTHŌT'RŌPOŪS**, (1) applied to an ovule or seed in which the hilum coincides with the chalaza and the micropyle occupies the apex opposite. Compare **ANATROPOUS**. (2) Applied to the embryo it means the opposite of *antitropous*, i.e., having the radicle next the hilum, as in *anatropous* seeds.

**ÔS'ČĪLLĀTĪŅ**, see **VERSATILE**.

**ŌŠMŌSE**, the mutual diffusion of liquids of different densities through a membrane. It is the peculiar property of osmose that the denser fluid absorbs from the other through the membrane more than it gives in exchange. The imbibition of fluids by roots is due partially to osmose (endosmose), the fluid within the plant being denser than that in the soil. The outward diffusion of fluid from the plant into the soil, which takes place in a feeble degree, is termed Exosmose.

**ŌŠMŌ'SIS**, see OSMOSE.

**ŌŠSĒOŪS**, bony in texture.

**ŌŠSĪFIĒD**, become like bone, as a peach-stone.

**ŌŠTĪŌLE**, a small orifice, as that in a perithecium for the discharge of spores.

**ŌŠTĪŌLŪM**, see OSTIOLE.

**OUTĒR GLŪMEŠ**, see EMPTY GLUMES.

**Ō'VAL**, about twice as long as broad, with regular curved outlines; broadly elliptical.

**ŌVĀ'RĪŪM** (pl. Ōvā'riā), see OVARY.

**Ō'VĀRŸ**, the part of a pistil containing the ovules or seeds.

**Ō'VĀTE**, like a longitudinal section of an ordinary hen's egg, with the attachment, if any, at the broad end. Compare OVOID.

**Ō'VĪFŌRM**, see OVOID.

**Ō'VOID**, of the shape of a hen's egg, and attached, if at all, at the large end. Compare OVATE.

**Ō'VŪLE**, the seed previous to fertilization.

**ŌVŪLĪFĒROŪS**, bearing ovules.

**Ō'VŪM** (pl. Ō'vā), see OÖSPHERE.

**PĀCHŸPHŸL'LOŪS**, thick-leaved.

**PĀD**, a popular name for the leaf of a water-lily.

**PĀĠ'INĀ** (pl. Pāġ'inā), the surface of an organ, especially the upper or lower surface of a leaf.

**PĀINT'ĒD**, having colors disposed in streaks of unequal intensity. (Rare.)

**PĀIRED**, see CONJUGATE.

**PĀLĒĀ'ĈEOŪS**, see PALEACEOUS.

**PĀL'ĀTE**, the convex base of the lower lip of a personate corolla, as in snap-dragon.

**PĀLE**, see PALET.

**PĀ'LEĀ** (pl. Pā'lēā), (1) the inner bract of a flower in grasses (palet); (2) one of the bracts or scales upon the receptacle in Compositæ. Also used by some for Ramentum.

**PĀLĒĀ'ĈEOŪS**, chaff-like; bearing chaff or chaffy scales; consisting of chaff.

**PĀLĒŌBŌT'ĀNŸ**, see FOSSIL BOTANY.

**PĀLĒ'ŌLĀ** (pl. Pālē'olā), see LODICULE.

**PĀLĒŌPHŸTŌL'ŌĠŸ**, see FOSSIL BOTANY.

**PĀL'ĒT**, the inner bract or chaff of a flower in grasses; formerly known as the upper palet; palea. Compare GLUME.

**PĀLĪSĀDE' ĈELLŠ**, elongated cells perpendicular to the epidermis in the upper side of most leaves.

**PĀLLĒS'ĈENT**, somewhat pale.

**PĀL'LĪD**, pale; wan; deficient in color.

**PĀLM**, three inches.

**PĀL'MĀTE**, lobed or divided so that the sinuses all point toward the apex of the petiole, either moderately as in the maple-leaf, or more deeply,

when it is sometimes improperly called *pedate*, or so as to make the leaf compound when it is *digitate*.

**PĀL'MĀTĒD**, see PALMATE.

**PĀL'MĀTELŸ CLĒFT**, having the sinuses in a palmate leaf reaching about half way to the base; palmatifid.

**PĀL'MĀTELŸ CŌM'POUND**, having the leaflets all attached to the apex of the petiole; digitate.

**PĀL'MĀTELŸ DĪVĪ'DĒD**, cleft to the base in a palmate manner, but not compound; palmatisect.

**PĀL'MĀTELŸ LŌBED**, having the lobes directed toward the apex of the petiole.

**PĀL'MĀTELŸ NĒRVED**, sometimes applied to palmately veined leaves in endogens; palm-nerved; palminerved.

**PĀL'MĀTELŸ PĀRT'ĒD**, cleft nearly to the base in a palmate manner.

**PĀL'MĀTELŸ VEINED**, having the principal veins proceeding from the apex of the petiole, as in palmate leaves; palm-veined; palmiveined; radiate-veined.

**PĀLMĀT'ĪFĪD**, see PALMATELY CLEFT.

**PĀLMĀT'ĪLŌBED**, see PALMATELY LOBED.

**PĀLMĀTĪPĀR'TĪTE**, see PALMATELY PARTED.

**PĀLMĀT'ĪSĒCT**, see PALMATELY DIVIDED. Sometimes improperly used for Palmately Parted.

**PĀL'MĪNĒRVED**, see PALMATELY NERVED.

**PĀLM-NĒRVED**, see PALMATELY NERVED.

**PĀLM-VEINED**, see PALMATELY VEINED.

**PĀL'ŪDĪNE**, see PALUSTRINE.

**PĀLŪ'DĪNOŪS**, see PALUSTRINE.

**PĀL'ŪDŌSE**, see PALUSTRINE.

**PĀLŪS'TRĪNE**, growing in marshes or swamps; paludine; paludinous; paludose; uliginose; uliginous.

**PĀNCHE**, have pale faint stripes.

**PĀN'DŪRĀTE**, see PANDURIFORM.

**PĀNDŪ'RĪFŌRM**, obovate, with one or two large sinuses or concavities in each side, like the body of a violin; fiddle-shaped.

**PĀNGĒN'ĒSĪS**, a theory proposed by Charles Darwin to account for the reproduction of every part of an organism. It is, that each separate part of the individual throws off minute reproductive gemmules, which are capable of multiplication, and may be transmitted from generation to generation. Spores and seeds are abundantly supplied with these gemmules from all parts of the organism, and therefore specially fitted for reproduction. If other parts can serve for propagation, it is because gemmules from the remaining parts are present;—if a cutting "strikes root," for example, it is because it contains root gemmules. Atavism is caused by dormant gemmules from a previous generation. A modification of this theory proposed by De Vries is that each cell contains all the essential elements for the reproduction of the plant, the protoplasm containing a vast number of self-reproductive particles (pangens) which transmit the characters of the individual.

**PĀN'ICLE**, a branched raceme, as in oats. Panicles are either determinate or indeterminate

in their mode of inflorescence. If the former they are called "cymose;" if the latter, "botryo-se." They have a variety of shapes, the typical form being loose and spreading, with repeatedly branched peduncles, as in many grasses. Panicles of certain forms have received special names. A compact panicle like that of lilac is called a thyrsus; a spike-shaped panicle like that of wheat is usually called a spike, or compound spike; a corymb might be called a level-topped centripetal panicle, and a cyme a similar centrifugal panicle.

**PĀN'ICLED**, see PANICULATE.

**PĀN'IC'ŪLĀTE**, resembling a panicle; furnished with panicles; arranged in panicles; panicked.

**PĀN'IC'ŪLĀTĒD**, see PANICULATE.

**PĀN'IC'ŪLĪFŌRM**, panicle-shaped.

**PĀN'NĀRŸ**, pertaining to bread; suitable for making bread.

**PĀN'NĪFŌRM**, thick and spongy, like coarse cloth.

**PĀN'NŌSE**, (1) having a felted coat of hairs. Compare FLOCCOSE and MANICATE. (2) Having the texture of coarse cloth; panniform.

**PĀNSPĒR'MĪĀ**, the theory that seeds and spores are everywhere present, ready to be developed upon favorable opportunity.

**PĀ'PĒRŸ**, see CHARTACEOUS.

**PĀPĪLĪŌNĀ'ĖOŪS**, having flowers, as in the Papilionaceæ, a tribe of the Leguminosæ or pea family; i.e., with a large upper or posterior petal called the vexillum, two lateral petals called wings, and two small

inferior petals more or less united into a carina or keel.

**PĀPĪL'LĀ** (pl. Pāpil'lā), a small soft, elongated teat-shaped protuberance. Compare MAMILLA and WART.

**PĀP'ILLĀRŸ**, having or resembling papillæ. Compare VERUCOSE.

**PĀP'ILLĀTE**, having papillæ; papilliferous. Compare MAMILLATE.

**PĀPĪLĪF'ĖROŪS**, see PAPILLATE.

**PĀPĪL'LĪFŌRM**, in the form of a papilla.

**PĀP'ILLŌSE**, papillate or papillary; especially, covered with papillæ.

**PĀPPĪF'ĖROŪS**, bearing a pappus, as the seeds of thistle.

**PĀP'PĪFŌRM**, like a pappus.

**PĀPPŌSE'**, pappiferous or pappiform.

**PĀP'PŪS**, the calyx in Compositæ, especially when developed in a hairy or feathery manner to effect the dispersion of the seed. Compare COMA.

**PĀP'ŪLĀ** (pl. Pāp'ulæ), see PAPILLA.

**PĀP'ŪLOŪS**, see PAPILLOSE.

**PĀPŸRĀ'ĖEOŪS**, papery; chartaceous.

**PĀRĀCŌRŌL'LĀ**, see CROWN.

**PĀR'ĀĖŸST**, a term proposed by Tulasne, but not generally adopted, for De Bary's term Pollinodium.

**PĀRĀHĒLĪŌT'RŌPĪSM**, the power which certain leaves have when placed in bright sunlight of placing their surfaces parallel to the rays of light; diurnal sleep. Compare DIAHELIOTROPISM.

**PĀR'ALLĒL NERVED**, see PARALLEL VEINED.

**PĀR'ALLĒL VEINED**, having the veins or the principal ones parallel, or merely diverging: opposed to Reticulate veined and characteristic of the veins (or nerves) of endogens. In some exogens, however, as the beech, the principal lateral veins are parallel, but in exogens the term *parallel veined* is not applied, the condition being expressed in examples like this by the special term *pinnately veined*.

**PĀRĀMĪTŌM**, a name given by Flemming to the more fluid portion of the cell-substance which is contained in the meshes of the *mitom* or network of threads. It is the *paraplasma* of Kupffer.

**PĀRĀNĒ'MĀTĀ** (sing. Pārānē'mā), paraphyses among the spores of *Fucus* and other algæ. (Obs.) See PARAPHYSES.

**PĀRĀNŪCLĒ'ŌLŪS** (pl. Pārānū-clē'ōlī), one of the additional or secondary nucleoli in a nucleus, when there are more than one.

**PĀRĀNŪCLĒ'ŪS** (pl. Pārānū-clēī), an object resembling an additional nucleus—generally adjoining the true nucleus and in some cases budded off from it; lateral nucleus.

**PĀRĀPĒT'ALOŪS**, standing by the side of a petal, as stamens in some Rosaceæ.

**PĀRĀPHŪL'LŪM** (pl. Pārāphyl'lā), a foliaceous expansion which is not a true leaf, as the large stipules of the pea. Especially one of the leaf-like scaly hairs among the true leaves in mosses.

**PĀRĀPH'ŪSĒS** (sing. Pārāph'ŷsis), sterile filaments among reproductive bodies of various kinds, as those among the archegonia and antheridia in certain mosses, among the asci in Ascomycetes, and among the basidia in Basidiomycetes.

**PĀR'ĀSITE**, a plant which grows upon or within another living body, from which it derives a part or the whole of its nourishment. Compare SAPROPHYTE.

**PĀR'ĀSITE - SĀP'RŌPHŪTE**, a parasite which kills its host, then continues to feed upon it.

**PĀRĀSĪT'IC CĀSTRĀ'TION**, sterility of a reproductive organ caused by a parasite.

**PĀR'ĀSĪTISED**, affected by a parasite; having a parasite growing upon or within it.

**PĀR'ĀSĪTIŚM**, the condition of being a parasite.

**PĀRĀSTĀ'MĒN**, see STAMINODIUM.

**PĀRĀSTĒ'MŌN**, see STAMINODIUM.

**PĀRĀS'TĪCHŪ**, a whorl, or spiral row of organs. Compare ORTHOSTICHY.

**PĀR'ĀSTŪLE**, an abortive style.

**PĀRĀTŌN'IC**, depressing or retarding: opposed to stimulating. Applied mainly to certain spontaneous movements of plants, such as the "sleep" of leaves, induced by the withdrawal of the usual stimulus, in distinction from movements caused by mechanical or artificial irritation. Sometimes applied to all movements of organs which are produced by the presence or absence of external stimuli. The term is also applied to the condition of plants when un-

- sually insensitive to stimuli of any kind. Compare PHOTO-TONIC.
- PĀRĒN'CHĪMĀ**, all tissue composed of cells which do not have tapering extremities. Especially soft cellular tissue like that of pith and the pulp of leaves. Compare PROSENCHYMA and SCLERENCHYMA.
- PĀRĒNCHĪM'ĀTOŪS**, pertaining to, containing, or resembling parenchyma; spongy; porous.
- PĀ'RĪĒṢ** (pl. *Pārī'ētēṣ*), the wall of any enclosing body.
- PĀR'ĒTAL**, belonging to or situated upon the wall, as ovules or seeds upon the wall of the pericarp.
- PĀRĪPĪN'NĀTE**, see ABRUPTLY PINNATE.
- PĀRĒ'CIOŪS**, having male and female "flowers" in mosses placed close together. (Lesquereux and James.)
- PĀRT'ĒD**, divided nearly to the base.
- PĀRTHĒNŌĠĒN'ĒSĪS**, the occasional production of true spores or seeds without fertilization. Compare APOGAMY.
- PĀR THĒNŌSPŌRE**, a spore in certain algæ resembling a zygospore, but produced without conjugation.
- PĀR'TIAL**, secondary or subordinate.
- PĀR'TIAL ĪN'VŌLŪCRE**, one which subtends a subordinate part of an inflorescence, as a partial or secondary umbel.
- PĀR'TIAL PĒDŪN'CLE**, a branch of an inflorescence (pedicel) bearing more than one flower.
- PĀR'TIAL PĒT'ĪŌLE**, a division of a petiole bearing one or more leaflets; petiolule.
- PĀR'TIAL ŪM'BĒL**, one of the parts or secondary umbels of a compound umbel; umbel-lule; umbellet.
- PĀR'TĪBLE**, capable of being readily divided, but not dividing spontaneously.
- PĀR'TĪTE**, see PARTED.
- PĀR'TĪ'TIŌN**, see SEPTUM.
- PĀR'VŪS**, relatively small.
- PĀSTEUR'ĪSM**, a term applied by some writers to the protective or prophylactic inoculation of the attenuated virus of certain diseases, especially of hydrophobia, as devised by Louis Pasteur. The older term Vaccination, however, is being very properly extended to all operations involving this principle. Compare PASTEURIZATION.
- PĀSTEURĪZĀ'TION**, the preservation of wines or other fermented liquids by destroying the fungi and their spores that would produce further and deleterious changes. This is effected by prolonged heating to a moderate degree (about 140° F.) for the purpose of inducing the germination and subsequent destruction of the spores which are present.
- PĀTĒL'LĀ** (pl. *Pātēl'læ*), a form of sessile apothecium in lichens. (Obs.)
- PĀTĒL'LĪFŌRM**, kneepan-shaped; in the form of a watch-crystal or shallow saucer, especially if thickened like a kneepan.
- PĀT'ENT**, spreading nearly at right angles.
- PĀTH'FĪNDĒR**, see NECTAR-GUIDE.
- PĀTHŌĠĒN'ĪC**, disease-producing; pathogenetic.
- PĀTHŌL'ŌĠŸ**, see VEGETABLE PATHOLOGY.
- PĀT'ŪLOŪS**, slightly spreading.

**PAUCI**, a Latin prefix: few.

**PAUČIFLÓ'ROŮS**, few-flowered.

**PEĀR-FŌRM**, see PEAR-SHAPED.

**PEĀR-SHĀPED**, ovoid or obovoid, and contracted at the sides like the Bartlett pear. Compare TEAR-SHAPED.

**PĚC'TĪNĀTE**, having close narrow divisions like the teeth of a comb. Applied also by De Bary to two series of fibrovascular bundles when the members of each alternate with those of the other, like the teeth of two combs.

**PĚD'ĀTE**, palmately parted or divided into somewhat linear lobes, with two strong lateral lobes from each of which somewhat linear divisions arise, as in the maidenhair fern and *Viola pedata*. Compare PALMATE.

**PĚD'ĀTELŸ CLĚFT**, see PEDATELID.

**PĚD'ĀTELŸ VEINED**, having no mid-vein, but with two strong lateral veins, from each of which others originate which extend toward the apex; pedatinerved. Compare PALMATELY VEINED.

**PĚDĀT'ĪFĪD**, divided in a pedate manner about half-way to the base; pedately cleft.

**PĚDĀT'ĪNĚRVED**, see PEDATELY VEINED.

**PĚDĀTĪPĀR'TĪTE**, pedately veined and lobed with the sinuses reaching nearly to the principal veins.

**PĚD'ĪČĚL**, a branch of an inflorescence, supporting one or more flowers. Also applied to a little stalk or support of any kind. In orchids it is a portion of the pollinium in some genera which is derived from the rostellum and con-

nects the caudicles with the retinaculum. Compare FOOT-STALK and PEDUNCLE.

**PĚD'ĪČĚLLĀTE**, having a pedicel; pedicelled.

**PĚD'ĪČĚLLED**, see PEDICELLATE.

**PĚDĪČ'ŮLĀTE**, see PEDICELLATE.

**PĚDŮN'CLE**, the stalk of an inflorescence, whether of one flower or more. Compare PEDICEL and PARTIAL PEDUNCLE.

**PĚDŮN'CLED**, see PEDUNCULATE.

**PĚDŮN'CŮLAR**, pertaining to or serving as a peduncle; growing upon or attached to the side of a peduncle, as a *peduncular* tendril.

**PĚDŮN'CŮLĀTE**, having a peduncle, as a *pedunculate* flower or inflorescence; peduncled.

**PĚG**, a lip or projection at the lower end of the hypocotyl in Cucurbitaceæ which serves in germination to hold the seed-coats down while the cotyledons are withdrawn.

**PĚLĀ'ĠIAN**, see PELAGIC.

**PĚLĀĠ'ĪC**, pertaining to the deep sea; widely dispersed through the ocean; pelagian.

**PĚL'LĪCLE**, a distinct, firm, and in some cases separable, outer layer of the cortex in lichens and some other fleshy fungi.

**PĚLLŮ'ČĪD**, translucent.

**PĚLŌ'RIĀ**, a regular condition in flowers which are usually irregular. See REGULAR and IRREGULAR PELORIA.

**PĚL'TĀ** (pl. *PĚl'tĕe*), an obsolete term for certain target-shaped apothecia in lichens.

**PĚL'TĀTE**, shield- or target-shaped; circular, and fixed by the lower surface, especially the centre of it.

**PĚL'TĀTELŮ VEINED**, having veins radiating in all directions from the summit of the petiole, as in a peltate leaf.

**PĚL'VÍFÔRM**, shaped like the cavity of the pelvis; basin-shaped. (Rare.) See ACETABULIFORM and COTYLIFORM.

**PĚN'ČILED**, marked with fine distinct lines as if with a pencil.

**PĚN'ČILLED**, see PENCILLED.

**PĚN'DENT**, hanging directly downward. Compare CERNOUS and DROOPING.

**PĚN'DŮLOŮS**, hanging downward more than cernous, nearly vertically.

**PĚN'ČIL'LĀTE**, bordered or tipped with fine hairs like those of a camel's-hair pencil. Compare PENCILLED.

**PĚN'ČIL'LÍFÔRM**, like a camel's-hair pencil.

**PĚN'NĀTE**, see PINNATE.

**PĚN'NÍFÔRM**, in the form of a feather or plume.

**PĚN'NĪNĚRVED**, see PINNATELY VEINED.

**PĚNTA-**, a Greek prefix: five.

**PĚNTĀCĀR'PĚLLĀRŮ**, having an ovary with five carpels.

**PĚNTĀCÔC'COŮS**, of five cocci.

**PĚNTĀČŮC'LĪC**, in five whorls.

**PĚNTĀĠ'ŮNOŮS**, of five pistils or styles.

**PĚNTĀM'ĚROŮS**, of five parts: said of a flower having five organs in each whorl. Sometimes written 5-merous.

**PĚNTĀN'DROŮS**, having five stamens.

**PĚNTĀPĚT'ALOŮS**, of five petals.

**PĚNTĀPHŮL'LOŮS**, five-leaved; applied mainly to the parts of the calyx; pentasepalous.

**PĚNTĀP'TĚROŮS**, five-winged.

**PĚNTĀSĚP'ALOŮS**, of five sepals; pentaphyllous.

**PĚNTĀSPĚR'MOŮS**, five-seeded.

**PĚNTĀS'TĪCHOŮS**, in five vertical ranks.

**PĚ'PÔ**, a cucurbitaceous fruit, as a melon or gourd. It is indehiscent, fleshy, inferior, polycarpellary, and has a thick, more or less hardened, rind.

**PĚRĀPHŮL'LŮM**, an accrescent foliaceous calyx, as in quince. (Obs.)

**PĚRCŮR'RENT**, running throughout, as a midrib through the entire length of a leaf to the extreme apex.

**PĚRĚN'NĪAL**, adj., living more than two years.

**PĚRĚN'NĪAL**, n., a plant which lives more than two years.

**PĚRĚN'NĪAL HĚRB**, a plant that lives from year to year, but dies to the ground or nearly so at the close of each season.

**PĚR'FĚCT**, containing both stamens and pistils; hermaphrodite; bisexual. Compare COMPLETE.

**PĚRFÔ'LĪĀTE**, said of a leaf which is united around the stem at its base. Compare CONNATE.

**PĚR'FÔRĀTE**, pierced with small round holes. Compare PERTUSE and PUNCTATE.

**PĚRGĀMĚ'NĚOŮS**, see PERGAMENTACEOUS.

**PĚRGĀMĚNTĀ'ČEOŮS**, like parchment. (Rare.) See CHARTACEOUS.

**PĚR'ĪĀNTH**, the calyx and corolla taken together, or calyx alone when there is no corolla. Used mainly where calyx and corolla are much alike, as in lilies. Formerly applied to the

calyx only, or to calyx and involucre.

**PĚRĪĀN'THĪŮM**, see PERIANTH.

**PĚRĪĀNTHŌMĀ'NĪĀ**, an unnatural multiplication of sepals, bracts, etc.

**PĚR'ĪBLĚM**, the primordial cortex, i.e., the layer of nascent cortex beneath the dermatogen.

**PĚRĪCĀM'BĪŮM**, see PHLOĚM-SHEATH.

**PĚR'ĪCĀRP**, the wall of a ripened ovary or seed-vessel. Sometimes improperly applied to husks or other protective coverings surrounding the fruit.

**PĚR'ĪCHĚTH**, the involucre of leaves around the base of the seta (or sessile capsule) in mosses; also around the archegonia in Marchantia, etc.; perichæthium.

**PĚRĪCHĚ'TIAL**, belonging or pertaining to the perichæth.

**PĚRĪCHĚ'TĪŮM**, see PERICHÆTH.

**PĚRĪCLĀ'DĪŮM**, a sheathing petiole in exogens, as in many Umbelliferae. (Rare.)

**PĚRĪCLĪ'NAL**, said of cell-walls or any lines when parallel with the outer surface of the plant or organ. Compare ANTICLINAL. The annual rings of a trunk, for example, extend in a *periclinal* direction, and the medullary rays in an *anticlinal*.

**PĚRĪCLĪN'ĪŮM**, a name for the involucre in Compositæ.

**PĚR'ĪCŸCLE**, the outer portion of the central or fibrovascular cylinder.

**PĚR'ĪDĚRM**, see EPIPHLĚUM. Also applied to the cell-wall or any other enclosing membrane.

**PĚRĪDĪ'ŌLŮM** (pl. *PĚrĪdĪ'ŏlā*), di-

minutive of Peridium: a secondary or interior peridium containing a hymenium, as in Crucibulum.

**PĚRĪD'ĪŮM** (pl. *PĚrĪd'Īā*), the covering of almost any closed spore-case, or fungus-fruit, as of a puff-ball.

**PĚR'ĪGŌNE**, see PERIANTH.

**PĚRĪGŌ'NĪŮM** (pl. *PĚrĪgŏ'niā*), see PERIANTH. Sometimes used for Perichæth.

**PĚRĪGŸN'ĪŮM** (pl. *PĚrĪgŷn'Īā*), a term applied to various appendages of unusual or doubtful character surrounding the pistil, as the sac-like envelope (utriculus) surrounding the ovary in Carex. Also used for Perichæth in Hepaticæ and mosses.

**PĚRĪG'ŸNOŮS**, adherent to the calyx and free from the ovary: said of stamens.

**PĚRĪPĚT'ALOŮS**, around the petals.

**PĚRĪPHĚR'ĪC**, situated around the outside or periphery.

**PĚRĪPHLŌ'ĚM**, see PHLOĚM-SHEATH.

**PĚRĪPHŌRĀN'THĪŮM**, see PERICLINIUM.

**PĚRĪPHŸL'LŮM** (pl. *PĚrĪphŷl'lā*), see LODICULE.

**PĚR'ĪPLĀSM**, a hyaline peripheral layer of protoplasm; ectoplasm. Especially, in Peronosporæ, a part of the protoplasm in the oögonium and antheridium which does not take part in fertilization. Compare GONOPLASM.

**PĚRĪP'TĚROŮS**, surrounded by a wing-like expansion.

**PĚR'ĪSPĚRM**, the albumen of a seed, especially that formed outside the embryo-sac. Sometimes applied also to the seed-

- coat and to the pericarp. Compare ENDOSPERM.
- PĒRĪSPĒR'MĪC**, furnished with perisperm.
- PĒRĪSPĒRĀN'ĠĪŪM**, see INDUSIUM.
- PĒR'ĪSPĒRE**, a covering of one or more spores, as the cell or sac in which tetraspores are formed.
- PĒR'ĪSTŌME**, the fringe of teeth around the mouth of the capsule in mosses.
- PĒRĪTHĒ'ĠĪŪM** (pl. PĒrithē'ciā), the receptacle containing the asci in Ascomycetes. Commonly applied in a general way to the whole ascocarp.
- PĒRĪT'RŌPAL**, see PERITROPOUS.
- PĒRĪT'RŌPOŪS**, having the axis of the seed perpendicular to that of the pericarp. (Rare.)
- PĒRĪZŌ'NĪŪM**, a thin non-silicious membrane of a young auxospore in Diatomaceæ.
- PĒRPĒNDĪC'ŪLAR SĪS'TĒM**, see FIBROVASCULAR SYSTEM.
- PĒRSĪS'TĒNT**, remaining longer than usual, as parts of the flower which remain (either living or dead) until the fruit is ripe, or leaves which die but remain upon the tree during winter.
- PĒR'SŌNĀTE**, labiate, with the throat nearly closed by a projection in the lower lip called the palate; masked. Compare RINGENT.
- PĒRSPĪRĀ'TION**, see TRANSPIRATION.
- PĒRTŪS'ĀTE**, see PERTUSE.
- PĒRTŪSĒ'**, having slits or holes; perforate.
- PĒRTŪSĒD'**, see PERTUSE.
- PĒR'ŪLĀ** (pl. PĒr'ulā), see PERULE.
- PĒR'ŪLĀTE**, having perules.
- PĒR'ŪLE**, see BUD-SCALE.
- PĒT'AL**, a leaf of a corolla; flower-leaf.
- PĒT'ALED**, having petals; petalous: opposed to Apetalous. Used mainly in compounds, as *five-petaled*.
- PĒTALĪF'ĒROŪS**, bearing petals.
- PĒTĀL'ĪFŌRM**, shaped like a petal.
- PĒT'ALĪNE**, see PETALOID.
- PĒT'ALŌDE**, an organ resembling a petal; a false petal.
- PĒTĀL'ŌDŸ**, the conversion of other floral organs into petals.
- PĒT'ALOĪD**, petal-like in texture, color, and form; petaline. Compare CORALLACEOUS.
- PĒTALŌMĀ'NĪĀ**, any unusual development of the petals. Not usually applied to ordinary doubling, but to some remarkable development in size or form.
- PĒT'ALOŪS**, see PETAELED.
- PĒT'ĪOLAR**, pertaining to or having a petiole; borne on a petiole, as a *petiolar* gland or tendril.
- PĒT'ĪOLĀRŸ**, pertaining to a petiole.
- PĒT'ĪOLĀTE**, having a petiole; petioled.
- PĒT'ĪOLE**, the stem or foot-stalk of a leaf. Compare STIPE and PEDUNCLE.
- PĒT'ĪOLED**, see PETIOLATE.
- PĒTĪŌL'ŪLAR**, pertaining to the petiole of a leaflet.
- PĒT'ĪOLŪLE**, see PARTIAL PETIOLE.
- PĒZ'ĪZŌĪD**, in the shape of *Peziza*; cyathiform, or nearly so.
- PHĒNŌCĀR'POŪS**, having the fruit free from the perianth. (Rare.)

**PHĀNÖG'ĀMOŪS**, see PHENO-  
MOUS.

**PHĒNÖLÖG'ĪCĀL**, see PHENO-  
LOGICAL.

**PHĒ'ÖCÝST**, an old term for  
Nucleus.

**PHĀ'LĀNX** (pl. Phālān'gēs), a  
bundle of more or less cohe-  
rent stamens with broad fila-  
ments, as in some Malvaceæ.  
Compare ADELPHIA.

**PHĀN'ĒRÖGĀM**, see PHENOGAM.

**PHĀNĒRÖGĀ'MĪAN**, see PHENOG-  
AMOUS.

**PHĀNĒRÖGĀM'ĪC**, see PHENOG-  
AMOUS.

**PHĀNĒRÖG'ĀMOŪS**, see PHENOG-  
AMOUS.

**PHĒL'LĒM**, cork.

**PHĒL'LÖDĒRM**, green cells be-  
neath the cork formed from  
the inner layers of the phel-  
logen; cork-cortex.

**PHĒL'LÖGĒN**, the inner active  
growing layers of cork-tissue;  
cork-cambium; cork-meristem.

**PHĒ'NÖGĀM**, a flowering plant,  
i.e., one which produces true  
seeds; phanerogam. Compare  
CRYPTOGAM.

**PHĒNÖGĀ'MĪAN**, see PHENOG-  
AMOUS.

**PHĒNÖGĀM'ĪC**, see PHENOG-  
AMOUS.

**PHĒNÖG'ĀMOŪS**, producing true  
flowers and seeds. Compare  
CRYPTOGAMOUS.

**PHĒNÖLÖG'ĪCĀL**, applied to the  
blossoming of plants, and other  
periodical phenomena of plants  
and animals; phænological.

**PHLÖ'ĒM**, that portion of a fibro-  
vascular bundle which contains  
the bast and sieve tissue; lep-  
tome. In exogens it is always  
sharply defined from the re-  
maining portion (xylem) by a  
layer of cambium. The inner

bark is derived from the phloëm,  
and the wood from the xylem.

**PHLÖ'ĒM-RĀY**, a ray or plate of  
phloëm between two medullary  
rays. It is an outward con-  
tinuation of a xylem-ray.

**PHLÖ'ĒM-SHĒATH**, a layer of  
thin-walled cells surrounding  
the fibrovascular cylinder next  
within the cortex—usually  
better defined in roots than  
in stems; bast-sheath; peri-  
phloëm; pericambium; vascu-  
lar bundle-sheath.

**PHÖRĀN'THĪŪM**, see ANTHO-  
DIUM.

**PHÖTÖ-ĒP'INĀSTÝ**, downward  
curvature due to the presence  
of light. Compare PHOTO-  
HYPONASTY.

**PHÖTÖ-HÝ'PÖNĀSTÝ**, upward  
curvature due to increased il-  
lumination. Photo-epinasty  
and photo-hyponasty should  
be distinguished from heliot-  
ropism, as the curvatures are  
in the directions stated, from  
whatever direction the light  
comes.

**PHÖTÖTĀX'ĪS**, taking a definite  
position with reference to the  
incident rays of light, as cer-  
tain desmids and the leaves of  
the compass-plant, *Silphium*  
*laciniatum*.

**PHÖTÖTÖN'ĪC**, a term applied to  
the stimulating influence of  
light upon plants, inducing or  
increasing irritability and ex-  
citability. Thus, when growth  
which has been arrested by  
prolonged darkness is restored  
upon admission of light, the  
effect is termed the *phototonic*  
influence of the light; with  
most organs, however, growth  
is more rapid in darkness.  
This effect of light in retard-  
ing growth is called its *para-*

*tonic* influence. See PARATONIC.

**PHRĀG'MĀ** (pl. Phrāg'mātā), a horizontal false dissepiment in a pericarp, as in some species of Cassia. Formerly any false dissepiment, or any dissepiment.

**PHŶCŌCŶ'ĀNĪNE**, a bluish pigment, found in certain marine algæ.

**PHŶCŌERŶTH RĪNE**, the reddish pigment in Floridææ.

**PHŶCŌL'ŌGŶ**, see ALGOLOGY.

**PHŶCŌ'MĀ**, the whole plant in algæ, including thallus and reproductive organs. (Obs.)

**PHŶCŌMĀ'TĒR**, gelatine containing spores in algæ. (Obs.)

**PHŶCŌPHÆ'ĪNE**, the brown pigment of Fucaceæ and some other algæ.

**PHŶCŌXĀN'THĪNE**, a buff-colored pigment in diatoms and certain other algæ; diatomine.

**PHŶ'LĀ**, pl., see PHYLUM.

**PHŶLLĀ'RĪĒS**, an old term for the bracts forming the involucre of the flower-head in Compositæ.

**PHŶL'LŌCLĀDE**, see PHYLLOCLADIUM.

**PHŶLLŌCLĀ'DĪŪM** (pl. PhŶllō-clā'diā), a flattened branch which somewhat resembles a leaf, as in Ruscus and Psilotum; cladode; cladodium; cladophyll; phylloclade. Compare PHYLLODIUM.

**PHŶLLŌCŶ'ĀNĪN**, a bluish pigment which with phylloxanthine forms the green coloring matter of chlorophyll; cyanophyll.

**PHŶL'LŌDE**, see PHYLLODIUM.

**PHŶLLŌ'DĪŪM** (pl. PhŶllō'diā), a dilated petiole taking the place of a blade.

**PHŶL'LŌDŶ**, the reversion of bracts or floral organs to leaves; frondescence; phyllo-morphy.

**PHŶL'LŌGĒN**, see PHYLLOPHORE.

**PHŶLLŌGĒNĒT'ĪC**, leaf-producing.

**PHŶLLŌG'ĒNOŪS**, growing upon leaves.

**PHŶL'LŌID**, leaf-like.

**PHŶLLŌMĀ'NĪĀ**, an abnormally abundant growth of leaves, or their production in unusual places. Compare PLEIO-PHYLLY.

**PHŶL'LŌME**, a general term for all organs which are morphologically leaves, as bracts, scales, petals, etc.

**PHŶLLŌM'ĪC**, pertaining to a leaf or phyllome.

**PHŶL'LŌMŌRPHŶ**, see PHYLLODY.

**PHŶL'LŌPHŌRE**, any leaf-bearing organ, especially the leaf-bearing portion of the stem in palms.

**PHŶLLŌPŌ'DĪŪM**, the branched or unbranched axis of a leaf, as the stipe and rachis of a frond, an ordinary petiole, or any arrangement which serves as an axis or support for the expanded portion or portions of a leaf.

**PHŶLLŌTĀX'ĪS**, the order of arrangement of leaves upon stems; phyllotaxy.

**PHŶL'LŌTĀXŶ**, see PHYLLO-TAXIS.

**PHŶLLŌXĀN'THĪN**, a yellow pigment associated with phyllocyanin in the production of chlorophyll; xanthophyll.

**PHŶL'LŌG'ĒNŶ**, the comparative study of the development of animals or plants. It seeks to

trace the origin of species, varieties, etc., and their various organs from preexisting forms. It deals with the history of a species or other group, in distinction from Ontogeny, which deals with the history of an individual. See EVOLUTION.

**PHŶ'LŪM** (pl. *Phŷ'lā*), a scale, group, or system of organisms arranged in the manner in which its individuals or subordinate groups have succeeded each other in point of time.

**PHŶ'SIOLŌG'ICAL BŌT'ĀNŶ**, the science which treats of how plants live, grow, and perform their various functions; vegetable physiology.

**PHŶTŌGĒN'ĒSIS**, plant reproduction, germination, and development, or the science which treats of these processes; phyto-geny.

**PHŶTŌG'ĒNŶ**, see PHYTOGENESIS.

**PHŶTŌGĒŌG'RĀPHŶ**, see GEOGRAPHICAL BOTANY.

**PHŶTŌG'RĀPHŶ**, descriptive botany, including both the describing and naming of plants. See VEGETABLE TAXONOMY.

**PHŶ'TŌID**, plant-like.

**PHŶ'TŌLĪTE**, see PHYTOLITH.

**PHŶ'TŌLĪTH**, a fossil petrified plant; phytolite.

**PHŶTŌLĪTHŌL'ŌGŶ**, see FOSSIL BOTANY.

**PHŶTŌL'ŌGŶ**, see BOTANY.

**PHŶTŌL'ŶSIS**, the change in position undergone by the chlorophyll of a cell in consequence of the alternation of day and night or of the intensity of the sunlight. See APOSTROPHE, EPISTROPHE, and SYSTROPHE.

**PHŶ'TŌMĒR**, see PHYTON.

**PHŶ'TŌN**, an internode with a node at its upper extremity which bears one or more leaves, in the axil of each of which may appear one or more buds; phytomer. The name was given by Gaudichand, who regarded plants as compound individuals made up of successive *phytons*. See METAMER.

**PHŶTŌN'ŌMŶ**, see PHYSIOLOGICAL BOTANY.

**PHŶTŌN'ŶMŶ**, see PHYSIOLOGICAL BOTANY.

**PHŶTŌPĀTHŌL'ŌGŶ**, see VEGETABLE PATHOLOGY.

**PHŶTŌT'ŌMŶ**, (1) the science of vegetable anatomy; (2) the art or act of plant-dissection. Compare STRUCTURAL BOTANY.

**PHŶTŌZŌ'ŌN** (pl. *Phytōzō ā*) (obs.), see ANTHEROZOID.

**PĪ'LĒATE**, like a pileus; having a cap or pileus; pileiform.

**PĪLĒ'ĪFŌRM**, shaped like the pileus or cap of a mushroom.

**PĪLĒ'ŌLŪS** (pl. *Pilē'olī*), a little pileus, especially where there are several from the same stem.

**PĪLĒŌRHĪ'ZĀ**, see ROOT-CAP.

**PĪ'LOŪS**, see PILOSE.

**PĪ'LĒŪS** (pl. *Pī'lēī*), the cap of mushrooms. Extended to other similar objects, as the stalked stroma of *Claviceps*.

**PĪLĪF'ĒROŪS**, bearing hairs.

**PĪL'ĪFŌRM**, hair-like.

**PĪLĪG'ĒROŪS**, producing hairs.

**PĪLŌSE'**, (1) covered with long, soft, nearly erect and somewhat distant hairs; (2) having the nature of hair.

**PĪ'LŪS** (pl. *Pī'lī*), a hair.

**PĪN-EYED**, a florist's term for certain flowers which have the style more conspicuous than the stamens. Compare **THRUM-EYED**.

**PĪN'NĀ** (pl. Pīn'nā), a leaflet, or branch of a pinnately-compound leaf.

**PĪN'NĀTE**, having leaflets borne along a common petiole; pinnately compound. Compare **BIPINNATE** and **TRIPINNATE**. See **LEAFLET**.

**PĪN'NĀTĒD**, see **PINNATE**.

**PĪN NĀTELŸ CŌM POUND**, see **PINNATE**.

**PĪN'NĀTELŸ CLĚFT**, see **PIN-NATIFID**.

**PĪN'NĀTELŸ DĚCŌMPOUND'**, bipinnate, or further divided in a pinnate manner.

**PĪN'NĀTELŸ DĪVĪDĒD**, see **PIN-NATISECT**.

**PĪN'NĀTELŸ LŌBED**, having several lobes of about the same size on each side of an elongated leaf; pinnatilobate.

**PĪN'NĀTELŸ PĀRTĒD**, see **PIN-NATIPARTITE**.

**PĪN'NĀTELŸ TĒR'NĀTE**, see **PINNATELY TRIFOLIATE**.

**PĪN'NĀTELŸ TRĪFŌ'LIĀTE**, trifoliolate, with at least the terminal leaflet distinctly stalked; pinnately ternate.

**PĪN'NĀTELŸ VEINED**, having one primary vein or midrib from which secondary veins run parallel toward the margin, as in the beech; feather-veined.

**PĪNNĀT'ĪFĪD**, pinnately veined with marginal divisions reaching about half-way to the midrib.

**PĪNNĀTĪLŌ'BĀTE**, see **PINNATELY LOBED**.

**PĪNNĀTĪPĀR'TĪTE**, having marginal divisions in a pinnate leaf reaching nearly to the base; pinnately parted.

**PĪNNĀT'ĪSĚCT**, having the lobes of a pinnate leaf divided to the midrib but not petioled.

**PĪN'NĪFŌRM**, like a feather.

**PĪN'NĪNĒRVED**, see **PINNATELY VEINED**.

**PĪN'NŪLĀ** (pl. Pīn'nūlā), see **PINNULE**.

**PĪN'NŪLĀTE**, having pinnules.

**PĪN'NŪLE**, a secondary or other subordinate pinna, as in pinnately compound or pinnately decompound leaves.

**PĪP**, originally any seed, now sometimes applied to the seeds of the apple and to some other small seeds or seed-like bodies, including the little bulbs of lily-of-the-valley.

**PĪ'SĪFŌRM**, pea-shaped.

**PĪSTĪL**, the central seed-bearing organ of a flower, consisting of one or more united carpels. It consists of the seed-containing portion called ovary, the pollen-receiving part called stigma, and generally an intervening stem called the style. Usually there is but one pistil in a flower, but when, as in the strawberry, there are several distinct bodies as here described seated upon the receptacle, each is properly called a pistil.

**PĪSTĪLLĀRŸ CŌRD**, an old and inappropriate name for the conductive tissue of the style. See **CONDUCTIVE TISSUE**.

**PĪSTĪLLĀTE**, said of a flower containing pistils but no fertile stamens.

**PĪSTĪLLĪD'IŪM** (pl. Pistillid'ia), see **ARCHEGONIUM**.

**PĪSTĪLLĪF'ĒROŪS**, bearing pistils, or pistils without stamens.

**PĪS'TĪLLŌDŸ**, the transformation of other organs into pistils.

**PĪT**, (1) a small depression, or a thin spot in a cell-wall; (2) the endocarp of a drupe containing the kernel or seed; stone. See BORDERED PIT and BORDERED PORE.

**PĪT-CHĀM'BĒR**, the cavity of a bordered pit upon one side of the closing membrane.

**PĪTCH'ĒR**, see ASCIDIUM.

**PĪTCH'ĒR-SHĀPED**, when applied to a corolla means tubular with a contracted throat, as in *Vaccinium*; urceolate. Applied to other organs it means shaped more or less like an ordinary pitcher with a lip or spout at the top, as the leaf in the various "pitcher-plants."

**PĪTH**, the column or cord of soft cellular tissue at the centre of an exogenous stem; medulla.

**PĪT'TĒD**, marked with small depressions.

**PĪT'TĒD VĒS'SĒLŞ**, vessels having thickenings in the form of a network with polygonal meshes, leaving thin spots or pits; dotted ducts. Compare BORDERED PIT.

**PĪTŪ'ITOŪS**, pertaining to pitch or mucus.

**PLĀČĒN'TĀ**, the part of the ovary to which the ovules are attached; the tissue from which the sporangia arise in ferns. Compare HYMENIUM.

**PLĀČĒNTĀ TĪON**, the arrangement of the seeds in the pericarp; the arrangement of the placenta itself.

**PLĀČĒN'TĪFŌRM**, in the form of a double concave lens; i.e., like a circular thickened disk depressed in the centre upon both sides.

**PLĀĠĪŌTRŌP'ĪC**, growing at an angle from the vertical or from the axis either upward or downward. Compare ORTHOTROPIC.

**PLĀIN**, said of a margin which is not undulate in any degree, though it may be sinuate. (E. S. Goff.)

**PLĀIT'ĒD**, see Plicate.

**PLĀNE**, flat.

**PLĀNE OF ĪNSĒR'TĪON**, a plane which passes through the point of insertion of a lateral member, as a leaf, and coincides with the main axis and the axis of the lateral member.

**PLĀNE OF SŸM'MĒTRŸ**, any plane which divides an object into symmetrical halves.

**PLĀN'ŌGĀMĒTE**, a ciliated or otherwise motile coalescing (sexual) cell; zoögamete.

**PLĀNT-CĀNE**, a sugar-cane produced directly from seed, in distinction from Ratoon, which see.

**PLĀNT'LĒT**, a small or young plant.

**PLĀNT PĀTHŌL'ŌĠŸ**, see VEGETABLE PATHOLOGY.

**PLĀŞM** (or *Plāşmà*), see PROTOPLASM. Also used for nutritive cell-fluids of all kinds.

**PLĀŞMĀSŌME**, a protoplasmic corpuscle.

**PLĀŞMĀT'ĪC**, serving for growth; plastic. (Rare.)

**PLĀŞMŌ'DĪŪM** (pl. *Plāşmō diā*), a mass of naked multinucleated protoplasm exhibiting amoeboid movement; the vegetative body in *Myxomycetes*.

**PLĀŞMŌL'ŸSĪS**, the contraction of protoplasm under the influence of reagents.

**PLĀŞMŌLŸT'ĪC**, pertaining to plasmolysis.

**PLĀS'TĪC**, serving the purpose of growth; plasmic; formative.

**PLĀS'TĪD**, one of a class of clearly defined protoplasmic granules in the protoplasm of active cells which forms the basis of the chlorophyll and other color-granules, and is also the centre at which starch-grains are produced. For the synonymy of the colorless plastids, see **LEUCOPLAST**; and for that of the color-plastids, see **CHROMATOPHORE**.

**PLĀS'TĪN**, see **ACHROMATIN**.

**PLĀS'TOĪD**, see **RHABDOID**.

**PLĀTE**, see **NUCLEAR PLATE** and **SIEVE-PLATE**.

**PLĀTEAU'**, the very short stem which bears the scales in a bulb. Formerly called **Corm** or **Cormus**. See **CORM**.

**PLĀTYCĀR'POŪS**, broad-fruited.

**PLĀTYLŌ'BĀTE**, broad-lobed.

**PLĀTYPHYL'LOŪS**, broad-leaved.

**PLEIO-**, a Greek prefix meaning full of, or many.

**PLEIŌMŌR'PHĪSM**, (1) a change of form due to excessive growth of an organ; (2) sometimes used in fungi for **Poly-morphism**.

**PLEIŌPH'ŶLLOŪS**, having leaves without apparent buds or branches in their axils. (Rare.) See **PLEIOPHYLLY**.

**PLEI'ŌPHŶLLŶ**, a state in which there is an abnormal number of leaves from the same point, or an unusually large number of leaflets in a compound leaf. Compare **POLYPHYLLY**.

**PLEIŌSPĒR'MOŪS**, containing an abnormally large number of seeds. Formerly the same as **Polyspermous**.

**PLEI'ŌTĀXY**, a state in which

there are an abnormally large number of whorls.

**PLĒ'NŪS**, full, applied to "double" flowers.

**PLĒŌMŌR'PHĪSM**, see **PLEIOMORPHISM**.

**PLĒ'ŌN**, a term proposed by Nägeli for those aggregates of molecules which cannot be increased or diminished without changing their chemical nature.

**PLĒ'ŌNĀSM**, having any part abnormally numerous. (Rare.)

**PLĒ'RŌME**, nascent fibrovascular tissue.

**PLĒ'RŌME SHĒATH**, the phloëm-sheath in its nascent state.

**PLĒSĪŌMŌR'PHOŪS**, nearly of the same form.

**PLEŪRĒN'CHŶMĀ**, fibrous woody tissue. (Rare.)

**PLEŪRŌCĀR'POŪS**, see **CLADOCARPOUS**.

**PLEŪRŌDĪS'COŪS**, growing upon the sides of the disk, as the ray-flowers in **Compositæ**.

**PLEŪRŌGŶ'RĀTE**, having the annulus in ferns placed laterally, as in the genus **Trichomanes**.

**PLEŪRŌRHĪ'ZAL**, see **ACCUMBENT**.

**PLEŪ'RŌTRĪBE**, said of zygomorphic flowers which have the stamens so placed that an insect entering will receive the pollen upon its side, as in the pea. Compare **NOTOTRIBE** and **STERNOTRIBE**.

**PLĒX'ŪS**, any network.

**PLĪ'CĀ**, see **POLYCLADY**.

**PLĪ'CĀTE**, folded like a fan.

**PLĪCĀT'ŪLĀTE**, diminutive of **Plicate**.

**PLŪMŌSE'**, like a feather, as the slender branches of the pappus

in thistles, which have a row of fine hairs on each side.

**PLŮ'MŮLÁ**, see **PLUMULE**.

**PLŮ'MŮLE**, the rudimentary stem and leaves between the cotyledons.

**PLURI-**, a Latin prefix: more than one.

**PLŮŘÍFŮ'LIOŮS**, several-flowered.

**PLŮŘÍFŮ'LĪĀTE**, having several leaves.

**PLŮŘÍFŮ'LĪŌLĀTE**, having several or many leaflets.

**PLŮŘÍLŌC'ŮLAR**, having more than one cell in an ovary; multilocular. Compare **UNILOCULAR**.

**PLŮŘÍPĚT'ALOŮS**, see **POLYPETALOUS**.

**PLŮŘISĚP'TĀTE**, having more than one septum.

**PNEŮ'MĀTŌDEŠ**, upward growths from the roots of palms and some other plants which assist in aëration. The "knees" of the bald cypress were formerly supposed to be of this character.

**PŌC'ŮLIFŌRM**, deep cup-shaped, with hemispherical base and nearly upright sides. Compare **ALVEOLATE** and **CAMPANULATE**.

**PŌD**, any dry dehiscent fruit; capsule. The term pod is the more popular, and is usually restricted in its use, among botanists as well as others, to capsules of considerable size, especially when somewhat rounded or inflated, as in the milkweed (*Asclepias*).

**PŌDĚ'TĪIFŌRM**, resembling a podetium.

**PŌDĚ'TĪŮM** (pl. **PŌdĚ'tiá**), a stalk of an apothecium in lichens.

Also applied to the fruit-stalk in *Marchantia*.

**PŌ'DIŮM**, a support for some other part. The stem, for example, is a *podium* for the branches. Used mainly in composition. See **MONOPodium** and **SYMPodium**.

**PŌDŌCĀR'POŮS**, having a gynophore.

**PŌDŌČĚPH'ÁLOŮS**, said of a head of flowers when supported on a distinct peduncle or pedicel.

**PŌDŌGŮYN'IŮM**, see **GYNOPHORE**.

**PŌDŌP'TĚROŮS**, having winged peduncles.

**PŌD'ŌSPĚRM**, see **FUNICULUS**.

**PŌINT'AL**, an old term for **Pistil**.

**PŌINT'LĚSS**, see **MUTICOUS**.

**PŌINT'LĚTĚD**, see **APICULATE**.

**PŌ'LAR BŌD'Ů**, see **POLAR CELL**.

**POLAR CELL**, a portion of a gamete budded off prior to fertilization; apoblast; directive corpuscle; polar body; polar globule. Rare in plants.

**PŌ'LAR CŌP'PŮSČLE**, a central mass in each aster of a dividing nucleus.

**PŌ'LAR GLŌB'ŮLE**, see **POLAR CELL**.

**PŌ'LAR NŮ'CLĚŮS**, a fourth nucleus in each end of the embryo-sac previous to fertilization. The two polar nuclei unite to form the nucleus of the embryo-sac or "secondary nucleus."

**PŌLĀR'ĪTŮ**, the state of having distinct poles; the tendency to assume a direction parallel to the poles of the earth, as the leaves of the compass-plant, *Silphium laciniatum*.

**PŌL'LĚN**, the fertilizing powder, usually yellow, produced in the anthers of flowers. It consists of unicellular grains

of definite form, varying according to species, which begin the process of fertilization when placed upon the stigma by an act of germination.

**PÖL'LEÑĀTE**, see **POLLINATE**.

**PÖLLĒNĀ'TION**, see **POLLINATION**.

**PÖL'LEÑ-ČĚLL**, sometimes applied to the cells or chambers of the anther which contain the pollen; pollen-sac.

**PÖL'LEÑ-CHĀM'BĚR**, in gymnosperms, a cavity at the apex of the ovule in which the pollen-grains lie during fertilization; pollinic chamber.

**PÖL'LEÑ-GRĀIN**, the usual term for an individual spore, cell, or particle of pollen.

**PÖL'LEÑIZE**, see **POLLINATE**.

**PÖLLĒNĪZĀ'TION**, see **POLLINATION**.

**PÖL'LEÑŌID**, used by Bennett & Murray for Antherozoid.

**PÖL'LEÑ-MĀSS**, see **POLLINIUM**.

**PÖL'LEÑ-SĀC**, the cavity of an anther containing the pollen; pollen-cell.

**PÖL'LEÑ-SPŌRE**, see **POLLEN-GRAIN**.

**PÖL'LEÑ-TĚTRĀHĚ'DRŌN** (pl. Tětráhě'drá), see **POLLEN-TETRAD**.

**PÖL'LEÑ-TĚT'RĀD**, a pollen-mass consisting of four pollen-grains united, either permanently or before fully developed; fourfold pollen-grain; pollen-tetrahedron.

**PÖL'LEÑ-TŮBE**, a thin slender tube which issues from the pollen-grain on its contact with the stigma, which it penetrates until it reaches the ovule where fertilization takes place.

**PÖL'LEĚ**, an inch. (Obs.)

**PÖLLĒNĀ'RĪŮM** (pl. Pöllinā'riā), see **ANTHERIDIUM**.

**PÖL'LĒNĀTE**, to place pollen upon the stigma; pollenate; pollenize.

**PÖLLĒNĀ'TIŌN**, the placing of pollen upon the stigma—the first stage of fertilization; pollenization.

**PÖLLĒN'ĪĀ**, pl., see **POLLINIUM**.

**PÖLLĒN'ĪC CHĀM'BĚR**, see **POLLEN-CHAMBER**.

**PÖLLĒNĪF'ĚROŮS**, pollen-bearing.

**PÖLLĒN'ĪŮM** (pl. Pöllin'ia), a coherent mass of pollen-grains in certain plants, as orchids and milk-weeds, so arranged as to be conveyed by insects; pollen-mass. For the terminology of the parts supporting a pollinium, see **RETINACULUM**, **CORPUSCULUM**, **CAUDICLE**, and **PEDICEL**.

**PÖLLĒNĪZĀ'TIŌN**, see **POLLINATION**.

**PÖLLĒŌ'DĪŮM**, the antherium or male sexual organ in Pyrenomycetes which, either directly or by means of an outgrowth, conjugates with the female organ in fertilization.

**POLY-**, a prefix derived from the Greek, meaning many.

**PÖLYĀDEĚ'PHĪAN**, see **POLYADELPHOUS**.

**PÖLYĀDEĚ'PHOŮS**, having the stamens united by their filaments into three or more sets. See **ADELPHOUS**, **MONADELPHOUS**, and **DIADELPHOUS**.

**PÖLYĀD'ĚNOŮS**, bearing many glands.

**PÖLYĀN'DRĪAN**, see **POLYANDROUS**.

**PÖLYĀN'DROŮS**, having twenty or more hypogynous stamens. Compare **ICOSANDROUS**.

**PÖLYĀN'THOÛS**, having many flowers, especially if in one head. A polyanthous involucre, for example, is one investing many flowers.

**PÖLYCĀR'PĚLLĀRŸ**, said of a pistil consisting of more than one leaf or carpel.

**PÖLYCĀR'PIC**, fruiting successively; sychnocarpous. Compare **MONOCARPIC**. Sometimes improperly used for **Apocarpous**.

**PÖLYCĀR'POÛS**, used both for Polycarpic and Apocarpous. Compare **MONOCARPIC** and **MONOCARPOUS**.

**PÖLYCĚPH'ĀLOÛS**, bearing many heads.

**PÖLYCLĀ'DIĀ**, see **POLYCLADY**.

**PÖLYCLĀ'DOÛS**, having abnormally numerous branches.

**PÖL'YCLĀDŸ**, an excessive development of twigs or branches; plica. Due either to disease or teratology.

**PÖL'YCLŌNŸ**, an old term for Polyclady.

**PÖLYCŌC'COÛS**, of several cocci.

**PÖLYCŌTŸLĚD'ŌNOÛS**, having more than two seed-leaves.

**PÖLYCŌTŸLĚD'ŌNŸ**, an abnormal increase in the number of cotyledons.

**PÖLYDĚL'PHOÛS**, see **POLYADELPHOUS**.

**PÖLYĚM'BRŸŌNĀTE**, having more than one embryo in a seed.

**PÖLYĚM'BRŸŌNŸ**, the production, either abnormally or regularly, of more than one embryo in a seed. The term has been restricted to cases where the additional embryos arise without fertilization outside the embryo-sac, but there seems to be no good reason for the restriction.

**PÖLYFLŌ'ROÛS**, see **MULTIFLO-ROUS**.

**PÖLYGĀ'MĪAN**, see **POLYGAMOUS**.

**PÖLYGĀMŌ'DIĚ'CIOÛS**, see **DICE-IOUSLY POLYGAMOUS**.

**PÖLYG'AMOÛS**, producing male and hermaphrodite, or female and hermaphrodite, or male, female, and hermaphrodite flowers on the same or on different individuals; i.e., having both perfect flowers and those of one sex.

**PÖLYG'ŌNOÛS**, having many angles, knots, or nodes.

**PÖLYGŸNĚ'ČIAL**, containing the gynœcia of several flowers, as a collective fruit.

**PÖLYG'YNOÛS**, having many styles or pistils.

**PÖLYHĚ'DRŌN** (pl. *PölyhĚ'drā*), in *Hydrodictyon*, a special angular cell with horn-like processes, formed by the swarm-cells produced in the zygospore, and within which a new cenobium is developed.

**PÖLYM'ĚROÛS**, having many parts, or more than one: said of a flower with more than one organ in each whorl, or of a whorl containing more than one organ. Compare **MONOMEROUS**.

**PÖLYMÔR'PHĪC**, see **POLYMORPHOUS**.

**PÖLYMÔR'PHĪSM**, (1) a condition in which different individuals of the same species have different forms, as in many dicœious plants; (2) the state of passing different stages of existence under distinct forms which might be mistaken for different species, as is the case with heterœcious and some other fungi; pleiomorphism. See **METAGENESIS**, **ALTERATION**

OF GENERATIONS, and HETEROECISM.

**PÖLYMÔR'PHOÛS**, existing under different forms. See above. Also having numerous more or less definite sub-types under a given type.

**PÖLYPĚT'ALOÛS**, having distinct petals (opposed to Gamopetalous); apopetalous; dialypetalous; eleutheropetalous; choripetalous.

**PÖL'YPHÔRE**, a common receptacle for many distinct carpels, as that of the strawberry.

**PÖLYPH'YLLOÛS**, see POLYSEPALOUS.

**PÖL'YPHŮLLŮ**, an increase in the usual number of floral organs in a whorl. Compare PLEIOPHYLLY.

**PÖLYRHÍ'ZAL**, many-rooted.

**PÖLYSĚP'ALOÛS**, of two or more distinct sepals; aposepalous; apophyllous. Compare POLYPETALOUS.

**PÖLYSĪ'PHŌNOÛS**, said of the thallus in Florideæ when it consists of several parallel rows or filaments of cells.

**PÖLYSPĚR'MOÛS**, containing many seeds. Compare PLEIOSPERMOUS.

**PÖL'YSPĚRMŮ**, the fertilization of a female cell by more than one male cell.

**PÖL'YSPÔRE**, see COMPOUND SPORE.

**PÖLYSPÔ'ROÛS**, containing many spores.

**PÖLYS'TĀCHOÛS**, having many spikes.

**PÖLYSTĚM'ŌNOÛS**, having many more stamens than petals. Compare ISOSTEMONOUS and POLYANDROUS.

**PÖLYSŸMMĚT'RĪCAL**, capable of division into two symmetrical

or equal halves in more than one direction; actinomorphic.

**PÖLYTHĀL'MĪC**, derived from more than one flower, as a collective fruit. Compare MONOTHALMIC.

**PÖLYT'ŌMOÛS**, having the blade of a leaf distinctly divided into many subordinate parts, but not compound; having the stem forked or divided into many coördinate parts.

**PÖLYT'RĪCHOÛS**, bearing numerous hairs.

**PÖLYZŸGŌ'SĪS**, the conjugation of more than two cells (gametes).

**PŌMĀ'ĈEOÛS**, having the appearance or nature of an apple.

**PŌME**, an indehiscent fruit of more than one carpel, with the seeds enclosed in horny or parchment-like endocarps, and an adnate fleshy calyx, as in the apple.

**PŌMĪF'ĚROÛS**, pome-bearing.

**PŌM'ĪFŌRM**, apple-shaped.

**PŌMŌL'ŌGŮ**, the department of horticulture which relates to fruits. See FRUIT. Compare CARPOLOGY.

**PŌRE**, a small circular opening.

**PŌRE-CĀNĀL'**, the passage through a bordered or other pit between adjoining cells.

**PŌRE-CĀP'SŮLE**, one from which the seeds or spores escape by a pore or pores.

**PŌRĚN'CHŮMĀ** (obs.), see PITTED TISSUE.

**PŌRŌSE**, pierced with many small circular openings.

**PŌRRĚCT'**, directed outward or forward; outstretched. Compare ARRECT.

**PŌR'RĚT**, see SCALLION.

**PŌŠ'ĪTĪVE ĠĚŌT'RŌPĪŠM**, growing toward the centre of the earth—usually called simply

Geotropism. Compare **NEGATIVE GEOTROPISM**.

**PŎŠ'ITĪVE HĒLIŎT'RŎPĪSM**, the same as Heliotropism. Compare **NEGATIVE HELIOTROPISM**.

**PŎŠ'ITĪVELŎ RHĒŎTRŎP'ĪC**, having the direction of growth in a rheotropic organ coincide with that of the stream in which it is placed, i.e., point down-stream. (Jönsson.) Compare **NEGATIVELY RHEOTROPIC**.

**PŎSTĒ'RĪŎR**, the side of a flower, etc., adjoining the axis or main stem. Compare **ANTERIOR** and **DORSAL**.

**PŎS'TĪCOŬS**, see **EXTORSE**.

**POUCH**, see **SILICLE**.

**POUCH-SHĀPED**, like a short bag, as the pod of shepherd's-purse.

**PRĒ'CŎX**, see **PRECOCIOUS**.

**PRĒFLŎRĀ'TION**, see **ÆSTIVATION**.

**PRĒFŎLĪĀ'TION**, see **VERNATION**.

**PRĒMŎRSE'**, see **PREMORSE**.

**PRĀTĒN'SĪS**, growing in meadows.

**PRĒCŎ'ŐIOŬS**, appearing or ripening before the proper or usual time: said of flowers which expand before the leaves, and of plants which flower or fruit much younger than usual, etc.

**PRĒFLŎRĀ'TION**, see **ÆSTIVATION**.

**PRĒFŎLĪĀ'TION**, see **VERNATION**.

**PRĒMŎRSE'**, abrupt, and irregularly notched at the end as if bitten off. Compare **TRUNCATE**.

**PRĪCK'LE**, a small, sharp, stiff outgrowth from the epidermis. Compare **SPINE** and **THORN**.

**PRĪMĀRŎ**, chief or first formed. For examples see **PRIMARY AXIS**, **PRIMARY CORTEX**, etc.

**PRĪMĀRŎ ĀX'IS**, the main stem. **PRĪMĀRŎ CŎR'TĒX**, the true cortex or fundamental tissue of the bark. Compare **SECONDARY CORTEX**. See **PERIBLEM**.

**PRĪMĀRŎ LĒAVĒS**, see **PRIMORDIAL LEAVES**.

**PRĪMĀRŎ MĒR'ISTĒM**, the growing tissue of a young organ. Compare **SECONDARY MERISTEM**.

**PRĪMĀRŎ PĒT'ĪŎLE**, the midrib of a compound leaf.

**PRĪMĀRŎ RŎŎT**, the central or main root, being a direct continuation of the stem; tap-root.

**PRĪMĀRŎ STRŬCTŬRE**, the early structure of a plant or organ after all its distinctive tissues are formed and before any further growth or modification takes place.

**PRĪMĀRŎ TĪS'SŬE**, (1) tissue in the condition when first formed; (2) that which is formed during the first stage or season of growth.

**PRĪMĀRŎ WŎŎD**, that contained in the fibrovascular bundles of exogens when first developed, before the formation of the cambium ring. Compare **SECONDARY WOOD**.

**PRĪMĪNE**, the outer coat of the ovule, called testa in the seed. Mirbel applied the term primine to the inner coat of the ovule, because first formed, and some other German writers have used it in the same sense.

**PRĪM'ITĪVE**, original: applied, for example, to the original species from which cultivated plants have been derived.

**PRĪMÔR'DĪAL**, original, or first formed.

**PRĪMÔR'DĪAL ĆĒLL**, a cell without a cell-wall; naked cell.

**PRĪMÔR'DĪAL ĖPIDĒR'MĪS**, the epidermis as it exists when first formed.

**PRĪMÔR'DĪAL LĒAVEŠ**, the first leaves to succeed the cotyledons. Applied especially to lower leaves which differ considerably from those on the upper portion of the stem. Compare **PROTOPHYLL**.

**PRĪMÔR'DĪAL Ū'TRICLE**, the outer layer of protoplasm adjoining the cell-wall. The term has with some about the same significance as **Ectoplasm**, though it usually refers more particularly to the immediate surface of the protoplasm (considered as a membrane, though not really one) rather than to a definite outer layer. The term was first used by Mohl and applied to the layer of protoplasm adjoining the cell-wall in cells which are nearly filled with sap. Upon the application of certain reagents the protoplasm contracts from the wall as a sac, the "primordial utricle."

**PRĪMÔR'DĪŪM** (pl. **Prīmôr'diā**), any member or organ in its earliest condition.

**PRĪSMĀT'ĪC**, in the form of a prism—with flat, longitudinal faces separated by angles. Applied to stems. Compare **TERETE**.

**PRŌCĀM'BĪŪM**, the first formed fibrovascular tissue of an organ before it becomes differentiated into xylem and phloem. Compare **CAMBĪUM**.

**PRŌ ĆĀRP**, see **PROCĀRPIUM**.

**PRŌ ĆĀRPE** (Bornet & Thuret), see **PROCĀRPIUM**.

**PRŌĆĀR'PIŪM** (pl. **Prŏcār'piā**), in *Florideæ*, the female organ (archicarp) before fertilization. It consists of a carpogonium, together with the trichogyne and any other accessory part. Compare **CYSTOCARP**.

**PRŌĆ'ĖSS**, any projection from a surface.

**PRŌCŪM'BENT**, see **PROSTRATE**.

**PRŌDŪCED'**, prolonged; extended; projected.

**PRŌĖM'BRŪŌ**, (1) the Suspensor, which see; (2) formerly applied to a prothallus, or to the first result of the germination of any spore; now restricted to special cases, as the rudimentary first stage of the sporophore arising from the oöspore in *Characeæ*. Compare **PROMYCELIUM**, **PROTONEMA**, and **PROTHALLUS**.

**PRŌĖMBRŪŌN'ĪC BRANCHES**, short branches sometimes found on the nodes of *Chara fragilis* which resemble the proëmbryos in structure and serve for reproduction.

**PRŌĜ'AMOŪS**, preceding fertilization: applied to the cell of the pollen-grain which forms the pollen-tube, in distinction from vegetative cells which are also sometimes found.

**PRŌĜRĒS'SĪVE MĒTĀMÔR'PHŌ-SĪS**, the appearance in place of organs of the usual character of those belonging to a higher or succeeding set, as when petals are replaced by "converted into" stamens; ascending metamorphosis. Compare **RETROGRESSIVE METAMORPHOSIS**.

**PRŌ'LĀTE**, elongated in a polar direction. Compare **OBLATE**.

**PRŌLE**, a useless term applied both to **Form** and **Race**.

**PRŌLĒP'SĪS**, accelerated, anticipated, or hurried development, as in the disease known as "peach-yellows," where axillary buds develop into branches the first year.

**PRŌLĪFĒRĀ'TION**, development in a proliferous manner.

**PRŌLĪFĒROŪS**, developing buds, branches, flowers, etc., from unusual places. Applied, for example, to a flower from which another flower or a branch proceeds, to a leaf from which other leaves or branches arise, to a bulbous plant which abnormally produces bulbs upon the stem above ground, or to any plant which forms young plants in unusual number about its base.

**PRŌLĪFĪC**, fruitful. Sometimes used in the sense of Proliferous.

**PRŌLĪFĪCĀTION**, development in a prolific or proliferous manner; proliferation.

**PRŌLĪGĒROŪS**, bearing reproductive bodies of any kind.

**PRŌMĪNENT**, standing out more than usual, or beyond adjoining parts.

**PRŌMŪCĒ'LĪŪM**, in Uredineæ and Ustilagineæ, a short and short-lived mycelial growth proceeding from a resting-spore and upon which sporidia are borne.

**PRŌNĀTE**, inclined to grow prostrate; somewhat prone or prostrate.

**PRŌNE**, lying flat, especially with the face downward; ventricumbent. See PROSTRATE and SUPINE.

**PRŌNŪCLEŪS**, the nucleus of a gamete. Compare GERM-NUCLEUS.

**PRŌP**, see FULCRUM.

**PRŌPĀC'ŪLŪM**, see PROPAGULUM.

**PRŌPĀG'ŪLĀ**, pl., see PROPAGULUM.

**PRŌPĀG'ŪLE**, see PROPAGULUM.

**PRŌPĀG'ŪLŪM** (pl. *Prōpāg'ulā*), a term applied to runners, offsets, and stolons—especially to a slender runner or stolon terminating in a new plant.

**PRŌPĒND'ENT**, hanging forward and downward.

**PRŌP'ĒR**, true or individual. A *proper* calyx, for example, would be the true calyx of an individual flower as opposed to the general calyx (involucre) of a head.

**PRŌP'ĒR JŪICE**, a term formerly used for any characteristic fluid of a plant (especially if thickened) in distinction from the ordinary sap, as the "milk" of milk-weeds. Applied also to the cambium or so-called "descending sap" when in a growing mucilaginous condition.

**PRŌPH'ĀSĒS**, a term proposed by Strasburger for all the phenomena of karyokinesis up to the longitudinal splitting of the threads. Compare METAPHASES and ANAPHASES.

**PRŌPHLŌ'ĒM**, the first-formed elements of phloëm in a fibrovascular bundle; protophloëm. Applied also to the cylinder of elongated cells with thickened walls containing granular protoplasm found in the seta of certain mosses surrounding the proxylem.

**PRŌSCŌL'LĀ**, an old term for the retinaculum in orchids.

**PRŌSĒN'CHŪMĀ**, tissue composed of elongated cells with tapering extremities in the wood and liber. Compare PARENCHYMA.

**PROSTRATE**, lying flat upon the ground, but not rooting; procumbent. Compare CREEPING.

**PRŌTĀN'DRŌŮS**, having stamens which ripen their pollen before the pistils of the same flower are ready for fertilization. Compare PROTOGYNOUS.

**PRŌTĚĬD**, see ALBUMINOID.

**PRŌTĚĬN**, see ALBUMINOID. Formerly considered a distinct substance.

**PRŌTĚĬN CRÝS'TAL**, see CRYSTALLOID.

**PRŌTĚĬN GRĀIN**, see ALEURONE.

**PRŌTĚN**, see PROTENCHYMA.

**PRŌTĚN'CHÝMĀ**, a term used by Nägeli for all tissue not of the fibrovascular system; proten. Compare EPENCHYMA. These terms are little used.

**PRŌTĚRĀN'DROŮS**, see PROTANDROUS.

**PRŌTĚRĀN'THOŮS**, having flowers which appear before the leaves, as in the red maple. Sometimes improperly used in the opposite sense. Compare HYSTERANTHOUS and SYNANTHOUS.

**PRŌTĚRŌG'ÝNOŮS**, see PROTOGYNOUS.

**PRŌTHĀL'LĬĀ**, pl., see PROTHALLIUM.

**PRŌTHĀL'LĬŮM** (pl. *Prŏthāl'liā*), see PROTHALLUS.

**PRŌTHĀL'LŮS**, the thalloid structure resulting from the germination of the spore in ferns and other pteridophytes, upon which the antheridia and archegonia are borne; prothallium. Extended also to the sexual generation of other plants which have an alternation of generations.

**PRŌTŌGĚN'ĚSĬS**, a term proposed by Rocison for reproduction by budding after the manner of protophytes.

**PRŌTŌGĚN'ĬC**, formed in the beginning: said of intercellular spaces which are formed at the time the tissues are beginning to differentiate. Compare HYSTEROGENIC.

**PRŌTŌG'ÝNOŮS**, having pistils which are ready for fertilization before the pollen of the same flower is ripe. Compare PROTANDROUS.

**PRŌTŌ-MĚR'ĬSTĚM**, see PRIMARY MERISTEM.

**PRŌTŌNĚ'MĀ** (pl. *PrŏtŏnĚ'mâtā*), the proembryo, or confervoid (often branched) filament first formed from the spore in mosses, and upon which the conspicuous moss-plant is developed by budding.

**PRŌTŌPHLŌ'ĚM**, see PROPHLOËM.

**PRŌTŌPHÝL**, a cotyledon or other first-formed leaf of a plant; protophyllum. Used mainly in vascular cryptogams. Compare PRIMORDIAL LEAVES.

**PRŌTŌPHÝL'LŮM** (pl. *Prŏtŏphýl'lā*), see PROTOPHYL.

**PRŌTŌPHÝTŌL'ŌGÝ**, (1) the study of protophytes; (2) fossil botany.

**PRŌTŌPLĀŠM**, the nitrogenous fluid of variable composition found in living cells. It is the vital substance into which all food is assimilated and from which all parts of the plant are formed.

**PRŌTŌPLĀST** (Hanstein), the smallest body of protoplasm capable of individual action, either with or without a cell-

wall, and either associated in a tissue or independent. It is generally at least a nucleus, together with the protoplasm associated with it. Essentially a cell.

**PRŌ'TŌSPŌRE**, any spore which develops a promycelium. Applied by Cook to æcediospores. An unnecessary term. Compare **SPORIDIUM**.

**PRŌTŌTHĀL'LŪS**, see **PROTHAL-LUS**.

**PRŌTŌXŪ'LĒM**, see **PROXYLEM**.

**PRŌTŌZŌPH'ĪLOŪS**, applied to certain water-plants which have the pollen conveyed by minute animals called protozoa.

**PRŌTRŮD'ĪNG**, see **EXERTED**.

**PRŌX'ĪMAL**, pertaining to the base, or extremity of attachment. Compare **DISTAL**.

**PRŌXŪ'LĒM**, the first-formed xylem in a bundle; protoxylem. The term has also been applied to the layer of water-conducting cells destitute of protoplasm around the central strand in the seta of certain mosses. Compare **PROPHLOĒM**.

**PRŮ'ĪNĀTE**, see **PRUINOSE**.

**PRŮ'ĪNŌSE**, covered with a powdery bloom, like the fruit of most plums; pruinose. Compare **GLAUCOUS**, **HOARY**, and **CANESCENT**.

**PRŮ'ĪNOŪS**, see **PRUINOSE**.

**PRŮ'NĪFŌRM**, plum-shaped.

**PRŮ'RĪENT**, stinging, as the hairs of nettle.

**PSEŮDĀX'ĪS**, see **SYMPodium**.

**PSEUDO-**, a prefix derived from the Greek signifying false or spurious.

**PSEŮ'DŌ-BŪLB**, see **CORM**. Especially the corm or fleshy base

of the stem in many epiphytic orchids.

**PSEŮ'DŌ-BŪLBĪL**, an outgrowth which sometimes replaces the ordinary sporangia in ferns and bears antheridia and archegonia.

**PSEŮ'DŌCĀRP**, any fruit which is not derived exclusively from a single ovary without accessory parts. The fruits of the apple, rose, mulberry, and juniper are pseudocarps.

**PSEŮDŌCŌS'TĀTE**, said of a leaf in which the veins unite to form an outer vein parallel to the margin, as in *Eucalyptus*.

**PSEŮDŌ-ĠĒ'NŪS**, see **FORM-GENUS**.

**PSEŮDŌĠY'RĀTE**, sometimes applied to the annulus in ferns when it crowns the sporangium, as in the *Schizæacææ*. Compare **PLEUROGYRATE**.

**PSEŮDŌMŌNŌCŌTŪLĒD'ŌNOŪS**, having two or more consolidated cotyledons. (Obs.)

**PSEŮDŌ-PĀR'ĀSITE**, see **EPHYTE** and **SAPROPHYTE**.

**PSEŮDŌ-PĀRĒŅ'CHŪMĀ**, a term applied by De Bary to tissue in fungi which is formed by interlacing and united hyphæ.

**PSEŮDŌPĒRĪTHĒ'ĠĪŪM**, a false perithecium.

**PSEŮDŌ-PĪN'NĀTE**, having leaflets (or rather segments) which are not articulated or petioled at their base; pinnatisect.

**PSEŮDŌPŌ'DĪŪM** (pl. *Pseŭdŏpŏ-diā*), (1) a stipe or stem of unusual origin, as the leafless upper portion of the stem which supports the capsule in *Sphagnum* (instead of the true seta which remains undeveloped; (2) one of the tem-

porary changeable branches of a plasmodium, or one of the retractile appendages of the zoöspores (myxamœbæ) of Myxomycetes.

**PSEŮDŌRĀM'ŮLŮS**, a false or spurious branch found in certain Nostochaceæ, consisting of a younger filament agglutinated for a portion of its length to an older one.

**PSEŮDŌSPĚRM**, an Achene or Caryopsis.

**PSEŮDŌSPĚR'MÍC**, having a single seed so closely invested by the pericarp that the whole appears like a seed, as in grasses and Compositæ; pseudospermous.

**PSEŮDŌSPĚR'MOŮS**, see PSEUDOSPERMIC.

**PSEŮDŌSŮN'CĀRP**, see COLLECTIVE FRUIT. Compare SYN-CARP.

**PTĚŘÍD'ĪŮM**, see SAMARA.

**PTĚŘŌCĀR'POŮS**, wing-fruited.

**PTĚŘŌCAŮ'LOŮS**, having a winged stem.

**PTĚŘŌID**, wing-like.

**PTĚŘŌP'ŌDOŮS**, having a winged petiole.

**PTĚŘŌSPĚR'MOŮS**, having the seeds winged.

**PTĚŘYGŌ'NOŮS**, having winged expansions on the angles of the stem.

**PTŌ'MĀINE**, any alkaloid formed by the activity of bacteria.

**PŮBĚRTÝ**, the period when a plant first begins to blossom.

**PŮBĚR'ŮLENT**, minutely pubescent; covered with short, soft, rather distant hairs. Compare HOLOSERICEUS.

**PŮBĚS'ČENČE**, soft and rather short hairs; also extended to hairs of all kinds.

**PŮBĚS'ČENT**, covered with fine, soft, rather short hairs.

**PŮGĪŌN'ĪFŌRM**, dagger-shaped. (Obs.)

**PŮL'LEŮ-SHĀPED**, see TROCHLEAR.

**PŮL'LŮLĀTĪŅ**, budding; sprouting;—now used only for the budding or sprouting of a cell, a special form of cell-multiplication as seen in yeast, in which a new cell gradually swells out from an older one.

**PŮLP**, the soft, more or less juicy portion of a fruit, or other plant-substance of similar structure.

**PŮLVĚRĀ'ČEOŮS**, dusty or powdery on the surface. Compare PULVERULENT.

**PŮLVĚR'ŮLENT**, (1) powdery or crumbly; (2) pulveraceous.

**PŮL'VĪNĀTE**, shaped like a cushion or pillow; having a pulvinus.

**PŮL'VĪNĀTĚD**, having a pulvinus.

**PŮLVĪN'ŮLŮS** (pl. PŮlvīn'ālī), diminutive of Pulvinus. Applied to various excrescences, and also formerly to the soredia of lichens.

**PŮLVĪ'NŮS** (pl. PŮlvī'nī), a term applied to various cushion-shaped or wart-like protuberances and swellings, as (1) the projection left by the fall of a leaf in many plants; (2) the enlargement at the base of the petiole in certain Leguminosæ which has the power of contraction, producing the "sleep" of leaves; (3) an enlargement formed by the thickening of the bark at the base of certain twigs, as in arbor-vitæ; (4) a thickened, usually median, portion of

the prothallus in ferns bearing the archegonia and antheridia.

**PŮMĪLŮS**, see HUMILIS.

**PŮNC'TĀTE**, dotted as if by punctures. The dots may be colored or colorless, superficial or internal, in the latter case sometimes caused by minute oil-glands. Compare PERFORATE.

**PŮNC'TĪFŌRM**, in the form of either a dot or point.

**PŮNC'TŪM VĚĚTĀTĪŌNĪS**, the extremity of a stem, or other central point where the cells are in the process of division and growth; growing point; apical cone.

**PŮN'ĜENT**, terminating in a hard sharp point. Compare MUCRONATE.

**PŮR'PŌSE**, see ADAPTATION.

**PŮS'TŪLĀTE**, bearing pustules or low, blister-like elevations; pustular; pustulose.

**PŮS'TŪLE**, a slight elevation like a pimple or little blister. Compare PAPILLA.

**PŮTĀ'MĚN**, the stone of a drupe, or shell of a nut.

**PŮC'NĪDE**, see PYCNIDIUM.

**PŮCNĪD'ĪŮM** (pl. *PŮcnid'íá*), a receptacle in Ascomycetes containing stylospores; clinosporangium.

**PŮCNŌČĚPH'ĀLOŮS**, having the flowers densely crowded in the inflorescence.

**PŮCNŌCŌNĪD'ĪŮM**, see STYLO-SPORE.

**PŮCNŌGŌNĪD'ĪŮM**, see STYLO-SPORE.

**PŮC'NŌSPŌRE**, see STYLO-SPORE.

**PŮCNŌS'TĀCHOŮS**, in compact spikes.

**PŮĜĚNĚT'ĪC**, pus-forming, as certain bacteria.

**PŮRĀM'ĪDAL**, either angular and tapering upward, or conical.

**PŮRĚ'NĀ** (pl. *PŮrē'næ*), a nutlet, or the stone of a small drupe.

**PŮRĚNE**, see PYRENA.

**PŮRĚ'NŌCĀRP**, (1) the peritheciium in Pyrenomycetes; (2) a drupe.

**PŮRĚ'NŌIDS**, minute rounded colorless granules, one or more of which are embedded in the chromatophores of many algæ; amylum bodies; chlorophyll vesicles.

**PŮR'ĪFŌRM**, see PEAR-SHAPED.

**PŮX'ĪDĀTE**, resembling a pyxidium or bearing pyxidia.

**PŮXĪD'ĪŮM** (pl. *PŮxid'íá*), a capsule which dehisces by a circular transverse line; pyxis. Now restricted to seed-capsules, but formerly applied also to certain spore-capsules, as those of mosses.

**PŮX'ĪS** (pl. *PŮx'ēs*), see PYXIDIUM.

**QUAD-**, or **QUADRI-**, a prefix from the Latin meaning four.

**QUADRĀN'ĜŪLAR**, four-angled.

**QUADRĪCRŮ'RAL**, having four stems or supports.

**QUADRĪDĚN'TĀTE**, four-toothed.

**QUADRĪDĪĜ'ĪTĀTE**, digitate in four divisions.

**QUADRĪFĀ'RĪOŮS**, in four vertical ranks.

**QUAD'RĪFĪD**, cleft into four segments half-way to the base or midrib.

**QUAD'RĪFŌIL**, see QUADRIFOLIATE.

**QUADRĪFŌ'LĪĀTE**, strictly, four-leaved, but used for having four leaflets arising from the

apex of the petiole; quadrifoliolate; quadripHYLLous; quadrifoil.

**QUADRIFŌ'LIŌLĀTE**, the same as Quadrifoliolate, and more precise; i.e., having four leaflets arising from the apex of the petiole.

**QUADRIFŪR'CĀTE**, dividing into four branches.

**QUADRIGĒM'INĀTE**, growing in fours

**QUADRĪJ'ŪGĀTE**, having four pairs of leaflets; quadriJUGous.

**QUADRĪJ'ŪGOŪS**, see **QUADRĪJUGATE**.

**QUADRĪLŌ'BĀTE**, having four lobes, as a leaf.

**QUADRĪLŌC'ŪLAR**, having four cells in an ovary.

**QUAD'RĪNĀTE**, see **QUATER-NATE**.

**QUADRĪP'ĀRTĪTE**, divided to the base or midrib in four parts; four-parted.

**QUADRĪPH'YLLŌŪS**, see **QUADRIFOLIATE**.

**QUADRĪVĀL'VŪLAR**, of four valves—said of pericarps.

**QUĀQUĀVĒR'SAL**, directed every way.

**QUAR'TĒRĪNG**, applied by florists to petals which have an external angle or vacancy between them.

**QUAR'TĪNE**, a fourth integument in an ovule (if present) counting from the outside. It is really a layer or fold of the secundine or of the nucleus.

**QUĀTĒR'NĀRŸ**, of four parts. Compare **TETRAMEROUS**.

**QUĀTĒR'NĀTE**, growing in fours.

**QUILLED** (Hort.), applied to double flowers in *Compositæ* when the corollas of the florets, instead of being ligulate,

are more or less tubular in form like a cornet of paper, as is often seen in the dahlia.

**QUIN-**, a prefix from the Latin meaning five.

**QUĪ'NĀRŸ**, in fives or multiples of five.

**QUĪ'NĀTE**, growing together in fives, as five leaflets from the apex of a petiole.

**QUĪNCŪN'CIĀL**, applied in æstivation to a whorl of five parts, two of which are external, two internal, and one half external and half internal (the typical method of imbricative æstivation when the parts are five). Formerly used also in the sense of five-ranked. In general use the term is applied to objects arranged in squares with one at the centre. In horticulture this arrangement is sometimes termed "false quincuncial," the true quincuncial arrangement being the disposition of objects so that the intervening spaces are all hexagons.

**QUĪN'CŪNX**, a set of five objects arranged in a quincuncial manner.

**QUĪNCUĀN'GŪLAR**, five-angled.

**QUĪNCUĒCŌS'TĀTE**, five-ribbed.

**QUĪNCUĒDĒN'TĀTE**, five-toothed.

**QUĪNCUĒFĀ'RĪŌŪS**, five-ranked.

**QUĪN'QUĒFĪD**, in five segments reaching about half-way to the base or margin; five-cleft.

**QUĪNCUĒFŌ'LIĀTE**, having five leaflets; strictly, five-leaved.

**QUĪNCUĒFŌ'LIŌLĀTE**, the same as **Quinquifoliolate**; i.e., having five leaflets.

**QUĪNCUĒJŪ'GĀTE**, in five pairs.

**QUĪNCUĒLŌ'BĀTE**, having five lobes.

**QUÏNQUËLÖC'ÛLAR**, having five cells in a pericarp.

**QUÏN'QUËNËRVED**, having two strong veins arising from the midrib on each side near the base; quintuple nerved or veined. Compare **QUINQUECOSTATE** and **QUINQUEVEINED**.

**QUÏNQUËP'ÄRTÏTE**, divided into five parts nearly to the base.

**QUÏNQUËVÄL'VÛLAR**, having five valves in a pericarp.

**QUÏN'QUËVEINED**, having five strong veins proceeding from the base of a leaf. The same as **Quinquenerved**, and usually preferable.

**QUÏN'TÛPLE**, in fives, or multiples of five.

**QUÏN'TÛPLE-NËRVED**, see **QUÏN-QUENERVED**.

**QUÏN'TÛPLE-RÏBBED**, see **QUINQUECOSTATE**.

**RÄCE**, a variety, artificial or natural, which reproduces itself from seed.

**RÄCEME'**, an indeterminate inflorescence consisting of single-flowered pedicels arranged along a common axis. Compare **PANICLE** and **SPIKE**.

**RÄCEMÏF'ËROÛS**, bearing racemes.

**RÄC'ËMÖSE**, disposed in racemes or resembling a raceme.

**RÄC'ËMÛLE**, a small raceme.

**RÄCËM'ÛLOSE**, producing or disposed in small racemes, or resembling a small raceme.

**RÄCHÏL LÄ**, the axis of a spikelet in grasses.

**RÄ'CHÏS**, a common peduncle or petiole or elongated receptacle, especially (1) the midrib of a pinnate frond in ferns; (2) the axis of a spike or raceme; *rachis*.

**RÄ'DÏAL**, pertaining to a radius, ray, or border; developed uniformly on all sides around a longitudinal axis. Compare **DORSIVENTRAL**.

**RÄ'DÏAL BÛN'DLE**, the axial fibrovascular system in roots and some lycopods—so called because it consists of alternating radial bands of xylem and phloëm.

**RÄ'DÏANT**, spreading from a common centre; radiating; radiate. Also having a ray or border, as the inflorescence of *hydrangea*.

**RÄ'DÏÄTE**, having rays or ray-florets.

**RÄ'DÏÄTE - VEINED**, see **PALMATELY VEINED**.

**RÄ'DÏÄTING**, see **RADIANT**.

**RÄD'ÏCAL**, proceeding from the root, or base of the stem.

**RÄD'ÏCANT**, rooting—applied only where roots proceed from the stem above ground; *radicating*.

**RÄD'ÏCÄTËD**, having a root or roots.

**RÄD'ÏCÄTING**, see **RADICANT**.

**RÄDÏCÄ'TION**, (1) the arrangement or disposition of the roots in the soil, i.e., whether spreading near the surface or running vertically downward, etc.; (2) the arrangement of the roots and rootlets on their respective axes (*rhizotaxis*)—corresponding to *Phyllotaxis*, *Caulotaxis*, and *Inflorescence*; (3) the act of taking root. Compare **RAMIFICATION**.

**RÄD'ÏCËL**, a rootlet.

**RÄDÏCÏC'ÖLOÛS**, growing upon the roots of other plants, as certain parasitic fungi.

**RÄDÏCÏFLÖ'ROÛS**, having the flower-stalk arising from the crown of the root.

**RĀDĪĠ'ĪFŌRM**, root-like.

**RĀD'ĪCLE**, the portion of an embryo below the cotyledons, including the caulicle and nascent root; by some now restricted to the extreme point of the caulicle from which the root develops.

**RĀD'ĪCŌSE**, having roots unusually large or otherwise remarkable.

**RĀDĪC'ŪLĀ** (obs.), see RADICLE.

**RĀD'ĪCŪLE** (obs.), see ROOTLET.

**RĀDĪC'ŪLŌSE**, bearing rootlets or rhizoids, especially if numerous.

**RĀ'DĪŪS** (pl. *Rā'dī*), see RAY.

**RĀ'DĪX** (pl. *Rād'icēs*), see ROOT.

**RĀG** (Hort.), the placenta and dissepiments (core and membranes) in the orange and other citrus fruits.

**RĀ'MAL**, see RAMEAL.

**RĀ'MĒAL**, growing on or pertaining to branches; ramal; rameous.

**RĀ'MĒNT**, sing., see RAMENTA.

**RĀMĒN'TĀ** (sing. *Rāmēn'tūm*), scale-like hairs of various forms, especially when attached at an end or side like those on the petioles of ferns; raments. Also applied to other scales. Compare LEPIDES.

**RĀMĒNTĀ'ĠEOŪS**, bearing ramenta.

**RĀMĒN'TŪM**, sing., see RAMENTA.

**RĀ'MĒOŪS**, see RAMEAL.

**RĀ'MĪ**, pl., see RAMUS.

**RĀMĪF'ĒROŪS**, see RAMOSE.

**RĀMĪFĪCĀ'TION**, (1) the act or process of branching; (2) a branch, division, or offshoot; (3) the general arrangement of a system of branches. Applied to either stems or roots. Compare RADICATION.

**RĀMĪFLŌ'ROŪS**, producing flow-ers along the larger branches.

**RĀM'ĪFŌRM**, branch-like.

**RĀMĪP'ĀROŪS**, producing branches.

**RĀMŌSE'**, bearing branches; divided into branches; especially, divided into many branches; ramous.

**RĀ'MOŪS**, see RAMOSE.

**RĀM'ŪLĪ**, pl., see RAMULUS.

**RĀM'ŪLŌSE**, full of small branches.

**RĀM'ŪLOŪS**, see RAMULOSE.

**RĀM'ŪLŪS** (pl. *Rām'ulī*), a small branch or twig.

**RĀ'MŪS** (pl. *Rā'mī*), a branch.

**RĀNK**, a row, especially a vertical row of leaves or other organs upon a stem.

**RĀ'PHĒ**, the adherent funiculus connecting the hilum and chalaza in anatropous or amphitropous seeds. Also applied to a median line on the frustules of many diatoms, and formerly to the suture between the two halves of the fruit in Umbelliferae; rhaphe.

**RĀPH'ĪDĒS**, needle-shaped crystals; raphides. Sometimes improperly applied to plant-crystals of other forms. They are usually composed of oxalate of lime, and occur in large numbers in certain plants.

**RĀPHĪD'ĪAN**, pertaining to raphides. A *raphidian cell* is a cell containing raphides.

**RĀRE**, sparse or few. Seldom used in this sense.

**RĀRE-RIPE**, see RATH-RIPE.

**RĀTH-RIPE** (rare), ripening or maturing early in the season; rare-ripe.

**RĀTOON'**, a sprout from the root or base of a plant which has been cut off (applied mainly

to sugar-cane). Compare  
SUCKER and PLANT-CANE.

**RAUMPÄR'SIT**, see **AULOPHYTE**.

**RĀY**, a branch of an umbel or other somewhat radiating inflorescence; the ligulate corolla of an outer floret in a head of *Compositæ*; the margin of any circular surface, as distinguished from the central portion or disk.

**RĀY-FLŌRĒT**, see **LIGULATE FLORET**.

**RĀY-FLOW'ĒR**, one of the marginal florets of a head in *Compositæ*; ray-floret; ligulate floret. Also, a marginal flower in other flat-topped flower-clusters, especially when different from those of the centre or disk, as in *hydrangea*.

**RĚČĚP'TĀCLE**, the place upon or within which anything is borne, as the summit of a flower-stalk upon which the floral organs are arranged, or upon which the flowers of a head are situated.

**RĚČĚP'TĀC'ŪLAR**, pertaining to or growing upon a receptacle.

**RĚČĚP'TĀC'ŪLAR TŪBE**, see **CALYX-TUBE**. Compare **HY-PANTHIUM**.

**RĚČĚP'TĪVE SPŌT**, the place in an oosphere at which the male gamete enters; i.e., at which fertilization takes place.

**RĚČĚSS'**, see **SINTUS**.

**RĚC'LĪNĀTE**, bent over so that the apex is lower than the base, or until it rests on some support; reclined; reclining. Said of stems or branches when erect or ascending at the base, then turning toward the ground; of leaves in the bud when the blade is bent down upon the petiole, etc. When applied to a vine grow-

ing upon the ground it has about the same meaning as **Recumbent** and **Decumbent**.

**RĚCLĪNĒD'**, see **RECLINATE**.

**RĚCLĪN'ĪNG**, see **RECLINATE**.

**RĚCRUDĚS'ČENČE** (obs.), see **REJUVENESCENCE**.

**RĚC'TĪNĒRVED**, parallel-veined.

**RĚCTĪPĚTĀL'ĪTŸ**, the tendency of growing organs to grow in a straight line. (*Vochting*.)

**RĚCTISĚ'RĪAL**, in straight rows.

**RĚCŪR'VĀTE**, see **RECURVED**.

**RĚCŪRVED'**, curved outward or backward to a moderate extent, between forty-five and ninety degrees. Compare **REFLEXED**.

**RĚDŪPLĪCĀTE**, applied to parts of a flower in aestivation when they are valvate and have the margins reflexed.

**RĚDŪPLĪCĀ'TION**, an increase in the number of parts in a flower according to the plan upon which it is founded, i.e., by the addition of similar whorls; regular multiplication.

**RĚFLĚCT'ĒD**, see **REFLEXED**.

**RĚFLĚXED'**, turned backward or outward more than **Recurved**, or to about the same extent but abruptly; reflected. Compare **RECURVED** and **DEFLECTED**.

**RĚFLŌRĚS'ČENČE**, blossoming anew.

**RĚFRĀCT'ĒD**, bent abruptly outward or backward, at an angle of more than forty-five degrees. Compare **DEFLEXED** and **RECURVED**.

**RĚGĚNĚRĀ'TION**, see **REJUVENESCENCE**.

**RĚ'GION**, an extent of country enclosing particular species, which are distributed through it in the stations adapted to their growth, and which, owing

- to natural conditions, are not generally found elsewhere, as the Arctic and Mediterranean regions.
- RĚG'MĀ**, a fruit with elastically dehiscing cocci, as in *Euphorbia*.
- RĚG'MĀCĀRP**, see **REGMA**.
- RĚGRĚS'SION**, see **RETROGRESSIVE METAMORPHOSIS**.
- RĚG'ŪLAR**, said of a flower which has all the parts of each whorl alike in size and form; actinomorphic.
- RĚG'ŪLAR PĚLŌ'RĪĀ**, when a flower, usually regular, becomes irregular by the non-development of some part. Compare **PELORIA**, **IRREGULAR PELORIA**, and **EPANODY**.
- RĚJŮVĚNĚS'CEŇCE**, (1) the formation of a single new cell from the entire contents of a cell already formed ("renewal of cells"); especially, where the new cell escapes from the old cell-wall and develops a new plant, as in *Œdogonium* and some other algæ; (2) the renewal of growth and vigor as the result of conjugation or other form of fertilization (rare); (3) any renewed growth, or manifestation of increased vigor, as the annual growth of new canes in the raspberry or the formation of vigorous shoots from near the ground in other shrubs; renewal; regeneration.
- RĚLĪQUĪĚ**, see **INDUVIÆ**.
- RĚMŌTE'**, separated by greater intervals than usual.
- RĚNEW'AL OF ĆĚLLS**, see **RE-JUVENESCENCE**.
- RĚN'ĪFŌRM**, kidney-shaped; heart-shaped, but broader than long and very deeply lobed at the base.
- RĚPĀND'**, having a slightly undulating or sinuous margin. Compare **SINUATE**.
- RĚ'PĚNT**, see **CREEPING**.
- RĚP'LĪCĀTE**, folded backward at the sides or end. Compare **REVOLUTE**.
- RĚ'PLŪM**, a frame-like placenta in *Cruciferae* and certain other plants across which the septum stretches, and from which the two valves fall away in dehiscence.
- RĚPRŌDŮĆ'TĪVE ŐR'GANS**, in flowering plants, the stamens and pistils.
- RĚP'TANT**, see **CREEPING**.
- RĚSĚRVE MĀTĚ'RĪĀL**, assimilated plant-food which is capable of again becoming food to serve in the growth of the plant, as starch.
- RĚS'IN-ĆĚLL**, a cell which has the office of secreting resin.
- RĚS'IN-DŮCT**, see **RESIN-PASSAGE**.
- RĚS'IN-GLĀND**, a cell or group of cells which secrete resin.
- RĚSĪNĪFĚROŮS**, producing resin.
- RĚS'IN-PĀS'SĀĜE**, an intercellular space or continuous gland in or into which resin is secreted; resin-duct; resin-tube.
- RĚS'IN-TŮBE**, see **RESIN-PASSAGE**.
- RĚSPĪRĀ'TION**, in a broad sense, includes all transfers of gases and vapors between the plant and the air. As usually employed it refers to the absorption of carbon dioxide from the air, and its decomposition in the plant, with the assimilation of the carbon and the liberation of the oxygen. In a strict sense it applies to the same process as respiration in animals, though existing in

plants to a feebler degree, namely, the reception of oxygen, the oxidation of oxidizable matter, and the release of the products of oxidation. See **TRANSPIRATION**.

**RĚSPĪRÁTŌŘŮ ČÁVĚTÝ**, see **STOMATIC CHAMBER**.

**RĚSPĪRÁTŌŘŮ CHĀMBĚŘ**, see **STOMATIC CHAMBER**.

**RĚS'TANT**, see **PERSISTENT**.

**RĚS'TÍŇG ČĚLL**, see **RESTING-SPORE**.

**RĚS'TÍŇG-NŮ'CLĚŮS**, a nucleus when not in the act of karyokinesis. The nuclear filament then exists in the form of granules, or as a network, often with one or more nucleoli.

**RĚS'TÍŇG PĚ'RĪŌD**, the period during which a plant, seed, or spore remains dormant. Applied mainly to the dormant period of a resting-spore, then also called by some "involution-period."

**RĚS'TÍŇG-SPŌRĀN'ĜĪŮM**, a term applied by Pringsheim to certain dormant gonidia of Saprolegnia and related fungi which eventually produce swarm-spores.

**RĚS'TÍŇG-SPŌRE**, a spore furnished with thick walls and able to retain its vitality for a considerable time, and generally requiring the lapse of time, often over winter, before it will germinate; winter-spore; hypnospore; statospore.

**RĚS'TÍŇG-STĀGE**, the stage or condition of a plant, bulb, seed, or spore during its dormant or resting period.

**RĚS'ŮPĪNĀTE**, upside-down; inverted; retroverted; reversed. Compare **SUPINE**.

**RĚTĪC'ŮLĀTE**, in the form of

network, as the veins in the leaves of most plants.

**RĚTĪC'ŮLĀTĚD**, see **RETICULATE**.

**RĚTĪC'ŮLĀTĚD VĚS'SĚL**, one having thickenings in the form of network.

**RĚTĪCŮLĀ'TION**, any network; reticulum.

**RĚTĪC'ŮLŮM**, a fibrous membrane at the base of the petioles in palms (mattulla); the network which pervades the substance of the cell and nucleus enclosing the softer portions of the protoplasm; any system of filaments or fibres in the form of network.

**RĚT'ĪFŌRM**, see **RETICULATE**.

**RĚTĪNĀC'ŮLŮM** (pl. *RĚtĪnāc'ŭlā*), (1) the viscid glandular disk derived from the rostellum at the base of the caudicle of a pollinium in orchids by which it is attached to a visiting insect (cement-disk of Müller); (2) one of the arms connecting the pollinia of milk-weeds with the corpusculum; (3) the persistent indurated hook-like funiculus of the seeds in most Acanthaceæ.

**RĚT'ĪNĚRVED**, see **RETICULATE-VEINED**.

**RĚ'TRŌFLĚXED**, see **REFLEXED**.

**RĚ'TRŌFRĀCTĚD**, see **REFRACTED**.

**RĚTRŌGRĚS'SION**, see **RETROGRESSIVE METAMORPHOSIS**.

**RĚTRŌGRĚS'SĪVE MĚTĀMŌR'PHŌSĪS**, the occurrence in the place of organs of the usual character of those belonging to a lower condition or position, as when pistils become converted into stamens, petals, or leaves; descending metamorphosis; retrogression; re-

gression. Compare PROGRESSIVE METAMORPHOSIS.

**RÊTRÔRSE'**, turned backward in any manner.

**RÊTRÔRSE/LÝ ĀCŪ'LEĀTE**, having prickles directed backward or downward, as on the stem of *Galium asprellum*.

**RÊTRÔVĒRTĒD**, see RESUPINATE.

**RÊTŪSE'**, slightly notched at a rounded apex. Compare EMARGINATE.

**RĒVĒRSED'**, upside-down; resupinate; directed backward toward the base; extending in an opposite to the usual direction.

**RĒVĒR'SION**, appearance in an earlier, lower, or simpler form than usual. See RETROGRESSIVE METAMORPHOSIS and ATAVISM.

**RĒVŌLŪTE**, rolled outward, backward, or downward. Compare INVOLUTE and CIRCINATE.

**RĒVŌLVĪNG NŪTĀ'TION**, see CIRCUMNUTATION.

**RHĀB DOĪD**, an acicular or spindle-shaped protoplasmic body found in the stalk-cells of the tentacles of *Drosera* and in the mesophyll cells of *Dionaea*; plastoid. It tends to become spherical when the part is stimulated, but its full significance is unknown.

**RHĀ'CHĪS**, see RACHIS.

**RHĀ'PHĒ**, see RAPHE.

**RHĀPH'IDĒS**, see RAPHIDES.

**RHĒŌT'RŌPIŚM**, having the direction of growth determined (not mechanically) by a current of water. (Jönsson.) See POSITIVELY and NEGATIVELY RHEOTROPIC. Compare HELIOTROPISM.

**RHĪZĀMŌR'PHŌID**, see RHIZOMORPHOUS.

**RHĪZĀN'THOŪS**, parasitic upon the roots of another plant, and producing flowers with little or no green foliage of its own, as *Rafflesia* and *Monotropa*. A term of little importance, seldom used. Compare RADICIFLOUS.

**RHĪZĪ'NĀ** (pl. *Rhizī'nā*), see RHIZOID.

**RHĪ'ZĪNE**, see RHIZOID.

**RHĪZŌCĀR'POŪS**, having a perennial root and herbaceous stem; rhizocarpic. (Rare.)

**RHĪZ'ŌĠĒN**, (1) a plant which is parasitic upon the roots of another; (2) any part or organ which emits roots or rhizoids.

**RHĪZŌĠĒNĒT'ĪC**, root-producing, as *rhizogenetic* tissue; rhizogenic.

**RHĪZŌĠĒN'ĪC**, see RHIZOGENETIC.

**RHĪ'ZOID**, adj., see RHIZOMORPHOUS.

**RHĪ'ZOID**, n., a root-like organ in many cryptogams; rhizina; rhizine. Compare ROOT.

**RHĪZŌ'MĀ** (pl. *Rhizō'mātā*), see RHIZOME.

**RHĪZŌMĀT'ĪC**, having the appearance or character of a rhizome.

**RHĪZŌME'**, a subterranean stem, especially if uniformly thickened for the storage of starch, etc.; rhizoma; root-stock. Compare STOLON and TUBER.

**RHĪZŌMŌR'PHS**, root-like organs in *Agarics* and some other fungi composed of many united hyphal strands.

**RHĪZŌMŌR'PHŌŪS**, root-like; rhizomorphoid; rhizoid.

**RHĪ'ZŌPHŌRE**, a structure in certain species of *Selaginella* which resembles a root and from which true roots are developed.

**RHĪZŌPHŪYL'LOŪS**, emitting roots from the leaves. (Rare.)

**RHĪZŌTĀX'IS**, the position or order of arrangement of the roots upon a plant; radication. Compare **PHYLLOTAXIS** and **CAULOTAXIS**.

**RHĪZŌTĀXŸ**, see **RHIZOTAXIS**.

**RHŌDŌL'ŌGŸ**, the part of botany which treats of roses.

**RHŌDŌPHŪYL**, the compound pigment which is the coloring matter of red algæ, the Florideæ.

**RHŌDŌSPĒR'MĪN**, crystalloids of proteid found in the Florideæ containing the rhodophyl or red coloring matter.

**RĪB**, a large prominent vein.

**RĪBBED**, (1) having more than one prominent longitudinal vein; (2) applied to an apple or other fruit with large longitudinal ridges.

**RĪC'TŪS**, an old term for the throat of a personate flower.

**RĪĜĒS'ĈĒNT**, approaching a rigid or stiff consistence. (M. C. Cooke.)

**RĪGHT**, see remarks under **DEXTRORSE** and **LEFT**.

**RĪMĀ** (pl. *Rīmæ*), a chink or cleft.

**RĪMŌSE'**, abounding with chinks, clefts, or cracks, as the bark of many trees and the thallus of certain lichens; rimous.

**RĪM OŪS**, see **RIMOSE**.

**RĪM'ŪLŌSE**, diminutive of *Rimose*.

**RĪND**, see **CORTEX**.

**RĪNG**, see **ANNULUS**.

**RĪNGED**, see **ANNULATED**.

**RĪN'GĒNT**, bilabiate, with the lips widely separated and the throat open, as in *Lamium*. Compare **PERSONATE**.

**RĪPĀ'RĪAN**, see **RIPARIOUS**.

**RĪPĀ'RĪŪS**, growing along rivers or other water-courses; riparian.

**RĪVŌSE'**, having sinuate channels. Compare **SULCATE**.

**RĪV'ŪLŌSE**, having small sinuate channels. Compare **STRIATE**.

**RŌD - FRŪCTĪFĪCĀ'TION**, unbranched gonidiophores in Basidiomycetes.

**RŌGUE** (Hort.), an inferior sport or variation, i.e., a plant which deviates in an undesirable manner from the type of the species or variety.

**RŌOT**, the descending axis;—differing in character from the stem chiefly in being destitute of leaves. Compare **RHIZOID** and **RHIZOME**. Sachs extends the term *Root* to the root-like organs (rhizoids) of cellular plants.

**RŌOT-CĀP**, a protective covering to the growing extremity of roots; calyptra; pileorhiza.

**RŌOT-HĀIRS**, slender hairs upon the younger roots, which serve to absorb food from the soil.

**RŌOT-LĒAF**, a leaf springing from the base of the stem.

**RŌOT-PRĒS'SŪRE**, see **SAP-PRESSURE**.

**RŌOT'LĒT**, a small root; root-fibre.

**RŌOT-SHĒATH**, see **COLEORHIZA**.

**RŌOT'STŌCK**, see **RHIZOME**.

**RŌ'RĪDŪS**, covered with transparent elevations resembling drops of dew. (Obs.)

**RŌŠĀ'ĈEOŪS**, rose-like, or belonging to the family *Rosaceæ*.

**RŌŠĒL'LĀ** (obs.), see **ROSETTE**.

**RŌŠĒTTE'**, a cluster of leaves or other organs arranged somewhat like the petals of a

double rose, as the leaves of the dandelion or those upon the short spurs of the larch.

**RÖS'TĚL**, see **ROSTELLUM**.

**RÖS'TĚLLĀTE**, diminutive of Rostrate, having a small beak.

**RÖSTĚL'LĪFÖRM**, beak-shaped, especially when the process is small; rostriform.

**RÖSTĚL'LŮM** (pl. **Röstěl'lâ**), a little beak; especially, the process upon the column in orchids containing the disk (retinaculum) of the pollinia. It is one of the three united styles which has become modified for this purpose.

**RÖS'TRĀTE**, see **BEAKED**.

**RÖS'TRĪFÖRM**, beak-shaped.

**RÖS'TRŮM**, see **BEAK**.

**RÖŠŮLĀ** (obs.), see **ROSETTE**.

**RÖŠŮLAR** (obs.), see **ROSULATE**.

**RÖŠŮLĀTE**, arranged or shaped like a rosette; having the leaves in little tufts like the petals of a double rose, as those of the dandelion.

**RÖTĀTE**, wheel-shaped. In flowers, applied to a gamopetalous corolla with a very short tube and nearly flat spreading border.

**RÖTĀTE-PLĀNE**, gamopetalous, with a flat border and no tube.

**RÖTĀ'TION**, a flowing movement of the protoplasmic cell-fluid; cyclosis; streaming. In some active or growing cells the movement is readily visible as distinct currents having a rotary or back-and-forth direction. The term Cyclosis is now well established, and is perhaps preferable to Rotation as a general term, the latter word being applied especially to circulation next the cell-wall, to a rotation of the whole mass

within the cell, or to a peculiar spiral movement of the cell-fluid in certain plants, as in Chara.

**RÖ'TĪFÖRM** (obs.), see **ROTATE**.

**RÖTŮND'**, rounded; somewhat orbicular.

**ROŮGH**, see **SCABROUS**.

**ROŮGH LĚAVĚŠ**, a gardener's term for the true leaves which succeed the cotyledons.

**RUBĚS'ČENT**, reddish or rosy; rubicund.

**RŮ'BĪCŮND**, see **RUBESCENT**.

**RŮBĪĠ'ĪNŌSE**, of the color of iron-rust; brownish red; rubiginous; rufous; rusty; ferruginous.

**RŮBĪĠ'ĪNOŮŠ**, see **RUBIGINOSE**.

**RŮ'DĚRAL**, growing in rubbish or waste places.

**RŮ'DĪMENT**, an imperfectly developed, vestigial, or aborted part.

**RŮDĪMĚN'TAL**, see **RUDIMENTARY**.

**RŮDĪMĚN'TĀRŮ**, imperfectly developed, or in an early stage of development; rudimental.

**RUFĚS'ČENT**, somewhat rufous.

**RŮF'FLED**, sometimes applied to a margin when very strongly waved.

**RŮ'FOŮŠ**, see **RUBIGINOSE**.

**RŮ'GĀ**, a wrinkle.

**RŮĠ'ĠĚD** (obs.), see **SCABROUS**.

**RUGŌSE**, wrinkled, as the leaves of sage. Compare **BULLATE** and **CRISP**.

**RŮ'ĠŮLŌSE**, slightly rugose.

**RŮ'MĪNĀTĚD**, said of the albumen or cotyledons of a seed which has holes or channels into which the inner seed-coat penetrates, as in the papaw and nutmeg.

**RŮŇČÍNĀTE**, having large sharp teeth or lobes projecting backward, as the leaves of dandelion.

**RŮŇNĚR**, a stolon which roots and forms new plants at intervals, as the strawberry; the prostrate stem of a vine, as in melons.

**RŮŇNĚG**, prostrate upon or beneath the surface, but not rooting. Often used improperly in the sense of Creeping, which see.

**RUPĚSTRĚNE**, growing upon rocks or in rocky places; lapidose; saxatile; saxicole; saxicoline; saxicolous; rupicoline; rupicolous. The distinctions between these terms are mainly slight and inconstant. Lapidose may, however, be defined as growing upon land abounding in loose stones or coarse gravel (compare GLAREOSE), while the other terms usually refer to fixed or massive rock. There is a tendency, also, to restrict the terms Rupicolous and Saxicolous to growth directly upon the rocks, as with many lichens, mosses, and some ferns.

**RUPÍCŌLOŮS**, see RUPESTRINE.

**RŮP'TĪLE**, dehiscing in an irregular or accidental manner.

**RŮST'Ů**, see RUBIGINOSE.

**SĀB'ŮLĚNE**, see ARENACEOUS.

**SĀB'ŮLŌSE**, see ARENACEOUS.

**SĀC**, a deep or closed receptacle. Also written Sack.

**SĀC'CĀTE**, in the form of a bag or pouch; sacciform.

**SĀC OF THE ĀM'NĪŌS** (obs.), see EMBRYO-SAC.

**SĀC OF THE ĒM'BRŮŌ**, see EMBRYO-SAC.

**SĀCK**, see SAC.

**SĀG'ITTĀTE**, arrow-shaped. Differs from Cordate in having the lobes as well as apex acute.

**SĀ'LĚNT**, projecting outward.

**SĀ'LĚNE**, growing upon the seashore or other places impregnated with salt; salsuginous.

**SĀLSŮĜĚNOŮS**, see SALINE.

**SĀL'VĚR-FŌRM**, see HYPOCRATERIFORM.

**SĀL'VĚR - SHĀPED**, see HYPOCRATERIFORM.

**SĀMĀ'RĀ**, a winged fruit, like that of the ash, elm, or maple; pteridium; key.

**SĀMĀRŌID**, winged like a samara.

**SĀP**, in general, any vegetable fluid, especially limpid fluid, such as abounds in many trees in spring. See CELL-SAP.

**SĀP-CĀV'ĪTŮ**, see VACUOLE.

**SĀP'ĪD**, having a pleasant taste.

**SĀP'LĚG**, a tall seedling tree having a stem from two to six inches in diameter.

**SĀP-PRĚS'SŮRE**, the force exerted by the soil-fluid in entering the plant, and by the sap in passing upward within it; root-pressure. See OSMOSE.

**SĀPRŌG'ĚNOŮS**, causing putrefaction.

**SĀP'RŌPHŮTE**, a plant which lives upon dead animal or vegetable matter; humus-plant. Compare PARASITE.

**SĀPRŌPHŮT'ĪC**, living upon dead organic matter. Compare PARASITIC.

**SĀP-VĚS'SĚL**, see VESSEL.

**SĀP'-WOOD**, see ALBURNUM.

**SĀRCŌB'ĀSĪS**, see CARCERULE.

**SĀR'CŌCĀRP**, the succulent fleshy portion of a fruit, especially of a drupe. Used by

- M. T. Masters synonymously with Berry.
- SĀR'CŌDĒRM**, a fleshy layer in certain seed-coats; sarco-derma.
- SĀR'MĒNT**, a long slender runner, stolon, or twig; sarmen-tum; flagellum.
- SĀRMĒNTĀ'ČEOŮS**, see SAR-MENTOSE.
- SĀRMĒNTĪF'ĚROŮS**, bearing sarments.
- SĀRMĒNTŌSE'**, bearing or re-sembling sarments; sarmen-taceous; sarmentous.
- SĀRMĒN'TOŮS**, see SARMEN-TOSE.
- SĀRMĒN TŮM** (pl. Sārmĕn'tā), see SARMENT.
- SAU'SĀGE-SHĀPED**, see ALLAN-TOID.
- SAW-TOOTHED**, see SERRATE.
- SĀX'ĀTĪLE**, see RUPESTRINE.
- SĀX'ICŌLE**, see RUPESTRINE.
- SĀXĪC'ŌLĪNE**, see RUPESTRINE.
- SĀXĪC'ŌLOŮS**, growing upon rocks, as many mosses and lichens; rupicolous. Com-pare RUPESTRINE.
- SCĀ'BRĀTE**, see SCABROUS.
- SCĀ'BRĪD**, slightly scabrous.
- SCĀ'BRĪDOŮS**, somewhat scabrid or scabrous.
- SCĀBRĪD'ŮLOŮS**, slightly scabrid or scabrous; scabridous.
- SCĀ'BROŮS**, rough with short stiff hairs or points; scabrate; asperate.
- SCĀLĀR'ĪFŌRM**, having trans-verse bars like a ladder: ap-plied mainly to thickenings of this form characteristic of scalariform vessels.
- SCĀLĀR'ĪFŌRM DŮCT**, see SCA-LARIFORM VESSEL.
- SCĀLĀR'ĪFŌRM MĀRK'ING**, an elongated pit of a scalariform vessel.
- SCĀLĀR'ĪFŌRM VĚS'SĚL**, a ves-sel marked with elongated transverse bordered pits, as in many ferns.
- SCĀLE**, any thin, scale-like ap-pendage, usually a degen-erated and metamorphosed leaf, as those of buds and buds. See RAMENTUM and LEPIDE.
- SCĀL'LION**, a small or imperfect onion, particularly the shallot, *Allium Ascalonicum*. Com-pare SCULLION.
- SCAL'LOPED**, see CRENATE.
- SCĀL'Ÿ**, consisting of scales; furnished or covered with scales; scale-like in texture.
- SCĀL'Ÿ BŮLB**, one with narrow and somewhat separate scales, as in the lily. Compare TUNI-CATED BULB.
- SCĀN'DENT**, see CLIMBING.
- SCĀPE**, a peduncle rising from the ground, as in blood-root, *Sanguinaria Canadensis*; i.e., a stalk from the root or collar which bears one or more flow-ers but no foliage-leaves.
- SCĀPH'OID**, see NAVICULAR.
- SCĀPIFLŌ'ROŮS**, having the flow-ers on scapes.
- SCĀ'PIFŌRM**, scape-like; scapoid.
- SCĀPIĠ'ĚROŮS**, bearing scapes.
- SCĀ'POID**, see SCAPIFORM.
- SCĀ'PŮS**, see SCAPE.
- SCĀR**, the mark left by the natu-ral separation of a leaf or other organ; cicatrix. See LEAF-SCAR and HILUM.
- SCĀ'RĪŌSE**, see SCARIOUS.
- SCĀ'RĪOŮS**, dry and membranous; scariqse.
- SCĀT'TERED**, either sparse, or without apparent regularity

of arrangement. See **ALTER-NATE**.

**SCHIZŌCĀRP**, a fruit of which the carpels separate when mature and retain the seeds in cocci or mericarps.

**SCHIZŌGĒNĒT'IC**, see **SCHIZO-GENIC**.

**SCHIZŌGĒN'IC**, formed by the separation of parts, as some intercellular spaces; schizogenetic; schizogenous. Compare **LYSIGENIC**.

**SCHIZŌG'ĒNOŪS**, see **SCHIZO-GENIC**.

**SČĪM ĒTAR-SHĀPED**, see **ACINACIFORM**.

**SČĪ'ON**, formerly used for any shoot or twig; now applied only to one intended for grafting. Improperly written *Cion*. A scion is considered by most nurserymen to be a part of a twig or shoot long enough to make one graft, usually four to six inches.

**SČĪ'ŪRŌID**, in the shape of a squirrel's tail.

**SCLĒRĒN'CHŪMĀ**, lignified tissue of any kind, especially such as composes the shell of a nut. It is not usually applied to ordinary woody tissue, but is used by many botanists for thick-walled fibres of the bast and hypoderma.

**SCLĒR'ŌGĒN**, see **LIGNINE**.

**SCLĒ'RŌID**, woody or bony in texture.

**SCLĒRŌ'SĪS**, see **LIGNIFICATION**.

**SCLĒ'RŌTE**, see **SCLEROTIUM**.

**SCLĒRŌT'IC**, resembling or consisting of sclerenchyma.

**SCLĒRŌ'TĪŪM** (pl. *Sclērō'tiā*), a consolidated and hardened mass of hyphæ in a resting condition, as in *Claviceps* (ergot) and some other Ascomy-

cetes. Also a temporary condition assumed by the plasmodium of *Myxomycetes*, chiefly due to dryness, in which it appears in dry, compact, wax-like, gritty nodules.

**SCLĒRŌT'ŌID**, consisting of or resembling a sclerotium.

**SCŌBĪC'ŪLAR**, see **SCOBIFORM**.

**SCŌB'ĪFORM**, resembling sawdust; scobicular.

**SCŌBĪ'NĀ**, an old term for the zigzag rachis of certain grasses.

**SCŌL'ĒCĪTE**, Tulasne's later term for the "vermiform body" of *Woronin*. It is the ascogonium or archicarp in certain Ascomycetes, as *Ascobolus pulcherrimus*.

**SCŌR'PĪŌID**, commonly used in the sense of *Helicoid*, but properly restricted now to alternately progressive or zigzag development. See **SCORPIOID CYME** and **SCORPIOID DICHOTOMY**.

**SCŌR'PĪŌID ČYME**, one in which the successive flowers are situated on alternate sides of the pseudaxis; cicinal cyme; cicinus or cincinnus. The term *Scorpioid Cyme* was given by A. P. de Candolle to a unilateral cyme, the undeveloped portion of which is usually rolled up like the tail of a scorpion, as in *Boraginaceæ*, and this is the meaning still attached to the term by most botanists of England. Compare **HELICOID CYME**.

**SCŌR'PĪŌID DĪCHŌT'ŌMŪ**, one in which alternate branches develop in the successive bifurcations; cicinal dichotomy. Compare **HELICOID DICHOTOMY**.

**SCRŌBĪC'ŪLĀTE**, pitted.

**SCRÔ'TĪFÔRM**, see **POUCH-SHAPED**.

**SCŪ'LION**, a term applied by gardeners in America to onions which fail to "bottom" properly, but remain soft and become thick-necked. Probably derived from Scallion, which see.

**SCŪLP'TURED**, a horticultural term applied to the seeds of certain gourds, etc., which have peculiar markings.

**SCŪRE**, small bran-like epidermal scales.

**SCŪ'TATE**, shield-shaped, especially like a round shield; scutiform; clypeate. Compare **PELTATE**.

**SCŪ'TĒL**, see **SCUTELLUM**.

**SCŪTĒL'LĀEFÔRM**, see **SCUTELLIFORM**.

**SCŪTĒLLĀTE**, diminutive of Scutate; somewhat scutate, like a platter; especially, covered with small plate- or shield-like surfaces; scutellated. See **SCUTELLIFORM**.

**SCŪTĒLLĀTĒD**, see **SCUTELLATE**.

**SCŪTĒL'LĪFÔRM**, shaped like a saucer or small platter; scutellate; scutellæform. Compare **PATELLIFORM**.

**SCŪTĒL'LŪM** (pl. *Scūtēl'lā*), (1) a sessile apothecium or "shield" in lichens; (2) in Gramineæ a usually shield-like expansion of the hypocotyl which acts as an organ of suction through which the embryo absorbs nutriment from the endosperm. It is regarded as the cotyledon. It appears exteriorly as a large flat space upon the surface of the seed surrounding the embryo (plumule and radicle) to which it is attached. It forms the chief part of what is known

as the "chit" in a kernel of corn. Compare **SCUTUM**.

**SCŪ'TĪFÔRM**, see **SCUTATE**.

**SCŪ'TĪFÔRM LĒAF**, the first-formed leaf (protophyl) in *Salvinia*, differing in form from the succeeding leaves.

**SCŪ'TŪM**, a large circular disk-like part or organ, as the dilated stigma (stylostegium) of *Stapelia*; shield. Compare **SCUTELLUM**.

**SCŪYM'ĪTAR-SHĀPED**, see **ACINACIFORM**.

**SCŪ'PHĪFÔRM**, like a scyphus; goblet-shaped.

**SCŪ'PHŪS** (pl. *Scŷ'phī*), an apothecium in lichens elevated on a podetium. Compare **SCUTELLUM**.

**SĒBĀ'CEOŪS**, wax-like, or producing wax.

**SĒBĪF'ĒROŪS**, producing wax.

**SĒC'ONDĀRŪ**, opposed to **Primary**; often includes **Tertiary**, etc.

**SĒC'ONDĀRŪ BŪDŠ**, see **ACCESSORY BUDS**.

**SĒC'ONDĀRŪ CÔR'TĒX**, a collective term for the successive formations of liber or bast within the cortical sheath and primary cortex. It is not applied to secondary cork formations.

**SĒC'ONDĀRŪ FŪN'GŪS**, a saprophytic or parasitic fungus which attacks a plant after it has been killed or injured by another fungus. Compare **SUPERPARASITE**.

**SĒC'ONDĀRŪ HŪYRĪD**, see **DERIVATIVE HYBRID**.

**SĒC'ONDĀRŪ MĒD'ŪLLĀRŪ RAYS**, those intermediate between the rays first formed, and which do not extend to the pith.

**SĚC'ONDĀŘÝ MĚŘÍSTĚM**, meristem in an organ or part after its first development is completed and by means of which further growth is effected, as cambium. Compare PRIMARY MERISTEM.

**SĚC'ONDĀŘÝ NŮ'CLĚŮS**, the "nucleus of the embryo-sac," resulting from the union of the two polar nuclei.

**SĚC'ONDĀŘÝ PĚDŮN'CLE**, the stalk of a branch of an inflorescence bearing more than one flower; partial peduncle. Compare PEDICEL.

**SĚC'ONDĀŘÝ PĚTÍŮLE**, the stalk of a leaflet; partial petiole petiolule.

**SĚC'ONDĀŘÝ RŮŮT**, a lateral root, especially one growing from the stem. Compare PRIMARY ROOT and AĚRIAL ROOT.

**SĚC'ONDĀŘÝ SPŮRE**, a spore borne on a promycelium (sporidium), or one derived immediately from another spore.

**SĚC'ONDĀŘÝ STRŮC'TURE**, the structure or condition of a plant or organ after its first year, or after it has grown beyond its first formed state. Compare PRIMARY STRUCTURE.

**SĚC'ONDĀŘÝ WŮD**, the portion of the wood or xylem which is formed after the primary xylem, or after the formation of the cambium ring. Compare PRIMARY WOOD.

**SĚC'ONDĚNE** (obs.), see SECUNDINE.

**SĚC'TĚLE**, divided into separable parts.

**SĚCŮND**, either unilateral (one-ranked) or homomalous (one-sided), i.e., having lateral organs upon one side only, or all turned to one side.

**SĚC'ŮNDĚNE**, the secondary or inner coat of an ovule, called tegmen in the seed. By some authors this inner coat, since it is first formed, is called the Primine and the outer coat the Secundine.

**SEED**, a fertilized ovule: a structure enclosing when mature a rudimentary plant (the embryo) which is protected while in a dormant condition, and furnished with nutriment, either in its cotyledons or around them, with which to begin the process of growth.

**SEED-ĀGE**, a term proposed by L. H. Bailey for the process, state, or condition of being propagated by seed.

**SEED-BŮD**, an old term used both for ovule and ovary.

**SEED-CŮAT**, the covering of a seed. See TEGMEN and TESTA.

**SEED-LĚAF**, see COTYLEDON.

**SEED-LĚNG**, (1) a plant produced from seed, in distinction from one produced in any other manner, either naturally or artificially; (2) a young plant produced from seed, in distinction from one of considerable age or size.

**SEED-LŮBE**, see COTYLEDON.

**SEED-SPŮRT**, a sport which originated from seed; seminal sport. Compare BUD-SPORT.

**SEED-VĀŘIĀ'TION**, a variation derived from seed instead of buds. Compare BUD-VARIATION.

**SEED-VĀŘIĚTŮ**, any variety which originated from seed, either suddenly (seed-variation or seed-sport) or gradually in the ordinary way, and is propagated in any manner. Compare BUD-VARIETY.

**SEED-VĚS'SĚL**, see PERICARP.

**SĚG'MENT**, a natural division or part; as one of the parts of a compound or deeply divided leaf, an internode, the cell of a pericarp, any joint or regular part whether separable or not.

**SĚGMĚNĀ'TION**, the act or process of dividing into segments.

**SĚG'RĚGĀTĚD**, separated.

**SEĪ'RŌSPŌRE**, a kind of gonidium produced in monilliform rows in certain red algæ.

**SĚLF**, a florist's term for a flower or plant which is wholly of one color.

**SĚLF-CŌL'ŌRED**, applied to fruits and flowers which are of one color; unicolor. Compare **COLORED**.

**SĚLF-FĚRTĪLĪZĀ'TION**, see **CLOSE-FERTILIZATION**.

**SĚMĪ**, a Latin prefix meaning half or partial.

**SĚMĪADHĚR'ENT**, adherent half-way, as the calyx half-way to the summit of the ovary.

**SĚMĪAMPLĚX'ICAUL**, slightly clasping the stem.

**SĚMĪĀNĀT'RŌPOŪS**, see **AMPHITROPOUS**.

**SĚMĪCŌLŪM'NAR**, see **SEMITERETE**.

**SĚMĪCŌR'DĀTE**, in the shape of a lateral half of a cordate body.

**SĚM'ĪDOŪBLE**, when a part only of the stamens are replaced by petals. Compare **FULL**.

**SĚMĪEQ'UITANT**, see **HALF-EQUITANT**.

**SĚM'IFLŌRĚT**, a floret in *Compositæ* having a strap-shaped corolla; ligulate floret; semifloscule.

**SĚMĪFLŌS'CŪLAR**, having the florets of a head in *Compositæ* all ligulate; semiflosculous.

**SĚMĪFLŌS'CŪLE**, see **SEMIFLORET**.

**SĚMĪFLŌS'CŪLOŪS**, see **SEMIFLOSCULAR**.

**SĚMĪLĚNTĪC'ŪLAR**, see **SUBLENTICULAR**.

**SĚMĪLŌC'ŪLAR**, having the dissepiments incomplete and the pericarp therefore really unilocular; semiseptate.

**SĚMĪLŪ'NAR**, see **LUNAR**.

**SĚMĪLŪ'NĀTE**, see **LUNAR**.

**SĚM'ĪNAL**, pertaining to seed.

**SĚM'ĪNAL LĚAF**, see **COTYLEDON**.

**SĚM'ĪNAL SPŌRT**, see **SEED-SPORT**.

**SĚMĪNĀ'TION**, the production of seeds. Sometimes used for their dissemination or dispersion.

**SĚMĪNĪF'ĚROŪS**, seed-bearing.

**SĚMĪŌRBĪC'ŪLAR**, in the shape of one half of a circular body. Compare **SUBORBICULAR**.

**SĚMĪŌ'VAL**, having the shape of half of an oval, divided lengthwise.

**SĚMĪŌ'VĀTE**, in the form of half of an ovate figure, divided lengthwise, as where one side of an otherwise ovate leaf is wanting.

**SĚMĪRĀ'DĪĀTE**, having a part only of the marginal florets of a head ligulate.

**SĚMĪRĚN'ĪFŌRM**, reniform, with one lobe wanting.

**SĚMĪSĀG'ĪTTĀTE**, sagittate, with one lobe wanting.

**SĚMĪSĚP'TĀTE**, see **SEMILOCULAR**.

**SĚMĪSTĀM'ĪNĀTE**, formerly sometimes used for semidouble.

**SĚMĪTĚRĚTE'**, half-terete; half-cylindrical; semicolumnar.

**SĚMÍVÁL'VÁTE**, applied to a pericarp in which the valves are only partially dehiscent.

**SĚMÍVERTIČ'ILLÁTE**, see SUBVERTICILLATE.

**SĚMPĚRVĚRENT**, see EVERGREEN.

**SĚN'SITIVENĚSS**, see IRRITABILITY.

**SĚPAL**, a leaf or lobe of a calyx.

**SĚPALÍNE**, pertaining to or resembling a sepal.

**SĚPÁL'ODÝ**, the reversion of petals to sepals.

**SĚPALŌID**, sepal-like.

**SĚPALŌŮS**, having or relating to sepals; sepaline.

**SĚPÁRATE**, see FREE and DISTINCT.

**SĚPÁRÁTĚD FLOWĚRS**, those having stamens or pistils but not both.

**SĚPÁRÁTING LĀYĚR**, see ABSCISS LAYER.

**SĚPTÁ**, pl., see SEPTUM.

**SĚPTÁMĚROŮS**, having the parts in sevens.

**SĚPTÁTE**, having one or more partitions (septa). Compare SEPTIFEROUS.

**SĚPTÁTE SPŌRE**, see COMPOUND SPORE.

**SĚPTĚNÁTE**, having seven parts, or the parts in sevens; septamerous.

**SĚPTÍCĪDAL**, a mode of dehiscence in which the separation takes place through the partitions, i.e., along the line of junction of the carpels. Compare SEPTIFRAGAL and LOCULICIDAL.

**SĚPTÍFĚROŮS**, bearing one or more partitions or septa—said of the valves of certain capsules after dehiscence. Compare SEPTATE.

**SĚPTÍFŌRM**, resembling a septum.

**SĚPTÍFRÁGAL**, a mode of dehiscence in which the valves break away from the septa or partitions. Compare SEPTICIDAL and LOCULICIDAL.

**SĚPTŮLÁTE**, imperfectly or rarely septate, or having false or supernumerary septa.

**SĚPTŮLŮM** (pl. *SĚpt'ulá*), diminutive of Septum: a little septum or partition. Also a spurious or supernumerary septum.

**SĚPTŮM** (pl. *SĚpt'á*), a partition of any kind, as between two cells in a tissue, or between cavities in an ovary. See DISSEPIMENT.

**SĚRĪAL**, in rows or regular succession.

**SĚRĪÁTE**, see SERIAL.

**SĚRĪČ'EOŮS**, silky; covered with fine, straight, soft, smooth, glossy, appressed hairs.

**SĚRĪĚS**, (1) a row or rank; (2) a term applied to various subordinate groups of different values, and also used by Asa Gray as equivalent to Subkingdom, which see.

**SĚRŌT'INOŮS**, occurring late, or comparatively late, in the season.

**SĚR'RÁTE**, having sharp marginal teeth projecting toward the apex.

**SĚR'RÁTE-ČĪL'ĪÁTE**, having the teeth of a serrate margin tipped with fine slender hairs.

**SĚR'RÁTĚD**, see SERRATE.

**SĚR'RÁTŮRE**, one of the teeth of a serrate margin. Compare SERRULATION.

**SĚR'RĪED**, close together in rows, like the kernels in the rows upon an ear of Indian corn.

**SĚR'RŮLÁTE**, diminutive of Ser-

rate; serrate with small teeth.

Compare SUBSERRATE.

**SĚR'RULĀTĚD**, see SERRULATE.

**SĚRRULĀ'TION**, (1) the state or condition of being serrulate; (2) a tooth of a serrulate margin. Compare SERRATURE.

**SĚS'QUĪ-ĀL'TĚR**, half as many more: applied to stamens when half as many more than the petals; also to a fertile floret in grasses when accompanied by a small abortive one.

**SĚS'SILE**, (1) having no stalk, as a leaf which has no petiole but is seated directly upon the stem; (2) quiescent, not moving about --applied to bacteria and zoöspores at certain times.

**SĚ'TĀ** (pl. *SĚ'tæ*), a bristle or slender bristle-like body; the stalk of the capsule in most mosses above the true stem.

**SĚTĀ'CEOŮS**, (1) bristle-shaped; setiform; (2) setigerous.

**SĚTĪF'ĚROŮS**, see SETIGEROUS.

**SĚ'TĪFŌRM**, see SETACEOUS.

**SĚTĪG'ĚROŮS**, bristle-bearing; setiferous. See SETOSE.

**SĚTŌSE'**, bearing or abounding with bristles; bristly; setaceous; setous; setiferous; setigerous.

**SĚ'TOŮS**, see SETOSE.

**SĚT'ŪLĀ** (pl. *SĚt'ulæ*), diminutive of Seta.

**SĚT'ŪLŌSE**, bearing minute bristles.

**SEX-**, Latin for six. See HEX-

**SĚX**, one of the attributes of nearly all living bodies, which manifests itself in a certain method of reproduction, the first stage of which is the blending of the contents of two cells which are usually of distinct character and different origin, one of which is called male, the other female.

**SĚXĀN'GŪLAR**, having six angles; hexagonal.

**SĚXFĀ'RĪOŮS**, six-rowed.

**SĚX'ĪFĪD**, six-cleft.

**SĚXLŌC'ŪLAR**, having six cells in an ovary.

**SĚX'PĀRTĪTE**, six-parted.

**SĚX'ŪAL GĚNĚRĀ'TION**, the generation or stage which bears the sexual organs in plants which have an alternation of generations. In ferns it is the protballus. Compare ASEXUAL GENERATION.

**SĚX'ŪALSŪS'TĚM**, see LINNÆAN SYSTEM.

**SHĀG'GŪ**, either villose or hirsute.

**SHĚATH**, the petiole or base of the leaf in grasses which surrounds the stem; any tubular part surrounding another; vagina.

**SHĚATHED**, surrounded by a sheath; invaginated; vaginate.

**SHĚATH'ĪNG**, surrounding a stem or other body in a convolute or tubular manner, as the petioles of grasses; vaginant. Compare AMPLEXICAUL.

**SHĚLL**, the bony covering of a nut.

**SHĚILD**, see APOTHECIUM and INDUSIUM. In Chara one of the eight flat cells forming the wall of the globule.

**SHĚILD - SHĀPED**, scutate or peltate.

**SHŌOT**, a young growing branch or twig, or an unusually vigorous stem or branch, generally from the ground or near it. Also used by botanists as a general term for the stem or leaf-bearing part of a plant in distinction from the root.

**SHRŪB**, a woody plant which seldom exceeds twenty feet in

height; especially one having several stems. Compare BUSH, UNDERSHRUB, and TREE.

**SĪC'ŪS**, dry.

**SĪVE-ĀELL**, see SĪVE-TUBE.

**SĪVE-DĪSK**, the perforated septum between the ends of adjoining sieve-tubes; sieve-plate.

**SĪVE-PLĀTE**, see SĪVE-DISK.

**SĪVE-PŌRES**, the perforations in a sieve-disk.

**SĪVE-TŪBE**, a form of vessel characteristic of the phloem portion of fibrovascular bundles. Sieve-tubes consist of elongated, thin-walled cells, united end to end in rows, with the transverse septa (sieve-disks) perforated in a sieve-like manner so that the protoplasm is continuous from one vessel to another; sieve-cell; clathrate-cell; bast-vessel.

**SĪĠĪLLĀTE**, appearing as if marked with impressions of a seal, as the rootstock of Solomon's seal.

**SĪĠMŌID**, curved in two directions, like the Greek sigma or letter S.

**SĪL'ĪCLE**, a short silique, as that of shepherd's-purse.

**SĪLĪC'ŪLĀ** (pl. *Silic'ulæ*), see SILICLE.

**SĪL'ĪCŪLE**, see SILICLE.

**SĪLĪC'ŪLŌSE**, having silicles, or resembling a silicle.

**SĪL'ĪQUĀ** (pl. *Sil'iquæ*), see SILIQUE.

**SILIQUE** [pro. *si-lēk'*], the fruit in Cruciferae—a pod of two carpels, which separate in dehiscence from a frame-like placenta called a replum; siliqua.

**SĪL'ĪQUŌSE**, resembling or bearing siliques.

**SĪLK**, the style of Indian corn.

**SĪLK'Ŷ**, see SERICEOUS.

**SĪL'VĀ**, see SYLVA.

**SĪL'VĒR GRĀIN**, plates of medullary rays which appear as glimmering spots upon the surface of wood when split radially. See MEDULLARY RAY.

**SĪL'VĒRŶ**, white, tinged with bluish gray, and having a metallic lustre.

**SĪMPLE**, without subdivisions; entire; unbranched. Compare COMPOUND.

**SĪMPLE FRŪIT**, one derived from a single flower containing a single pistil. Compare COLLECTIVE FRUIT and COMPOUND FRUIT.

**SĪMPLE LĒAF**, any leaf which does not have distinct subordinate leaflets, though it may be lobed. Compare COMPOUND LEAF.

**SĪMPLE NŪTĀTION**, see NUTATION. Compare CIRCUMNUTATION.

**SĪMPLE PĪS'TĪL**, one consisting of a single carpel.

**SĪMPLE PĪT**, one having no more than a slight enlargement at the centre where the pits of adjoining cells meet (simple pore of Gregory). Compare BORDERED PIT.

**SĪMPLE PŌRE** (Gregory), see SIMPLE PIT.

**SĪMPLE PRĪMĀRŶ RŌOT**, a tap-root.

**SĪMPLE SPŌRŌPHŌRE**, a sporophore consisting of a single hypha or hyphal branch; filamentous sporophore. Compare COMPOUND SPOROPHORE.

**SĪMPLE STĒM**, an unbranched stem.

**SĪMŪLTĀNĒŌŪS WHORL**, one whose members originate si-

multaneously. (Sachs.) Compare **SUCCESSIVE WHORL**.

**SÎN'GLE**, said of a flower which has but one set or whorl of petals. Compare **DOUBLE**, **SEMIDOUBLE**, and **FULL**.

**SÎN'ÎSTRÔRSE**, turning or twining to the left; said of a twining stem which turns in the opposite direction to the sun or hands of a watch. See remarks under **DEXTRORSE**.

**SÎN'ÛATE**, strongly wavy on the margin, with large alternate convexities and concavities. Compare **REPAND** and **UNDULATE**.

**SÎN'ÛOÛS**, flexuose; curving back and forth.

**SÎN'ÛS**, a cavity or recess, either rounded or angular, in the margin of a leaf or other organ.

**SÎ PHÔN**, a large tubular cell in Chara and various algæ.

**SÎS'TÈR-ÇÈLL**, a cell of the same origin as another; thus, if several cells arise simultaneously by free cell-formation within another, as in the development of pollen, they are called sister-cells with reference to each other, and the same term is applied to the relation existing between two or more cells which arise by the division of a single cell in ordinary growth. Compare **MOTHER-CELL** and **DAUGHTER-CELL**.

**SKÈIN**, a condition of the chromatin of the nucleus in the first and last stages of karyokinesis when the nuclear filament is emerging from or passing into its reticulated condition in the resting nucleus; mother-coil; tangle.

**SKÎN**, any soft, thin covering, especially if easily removable; cuticle; epidermis. Compare **RIND**.

**SLĀSHED**, see **LACINIATE**.

**SLEËP**, a condition assumed by certain plants, usually upon the withdrawal of light, as at night, in which the flowers temporarily close, and the leaves or leaflets droop or fold together.

**SMALL FRUITS**, a horticultural term for certain low-growing, perennial, fruit-bearing plants and their product, including the strawberry, raspberry, blackberry, gooseberry, currant, huckleberry, and cranberry. The term includes grapes, but excludes cherries.

**SMOOTH**, see **GLABROUS**.

**SÔ'BÔLE**, an old and useless term, usually meaning stolon, but sometimes and more properly a sucker or slender shoot from the ground or base of the stem; soboles.

**SÔB ÔLËŞ** (n., sing.), see **SOBOLE**.

**SÔ ÇIAL**, growing naturally together, so as to occupy a considerable extent of ground with individuals of the same species; gregarious. Compare **CESPI-TOSE**.

**SÔFT BĀST**, the sieve-tubes, together with any other unlignified portion of the phloëm.

**SÔ LËÆFÔRM**, see **CALCEOLATE**.

**SÔL'ÎD**, without either cavities or separable articulations; continuous.

**SÔL'ÎD BÛLB**, see **CORM**.

**SÔL'ÎTĀRÿ**, single, not closely associated with other objects of the same kind, as flowers which grow one upon a stem, or plants which do not grow in groups or masses. Compare **SOCIAL**.

**SÔLÛTE**, free; not adhering; opposed to **Adnate**, as a *solute* stipule.

**SOLU'TION**, the isolation or separation of whorls (apostasis), or of organs or parts which are usually close together or adherent. Compare **DIALYSIS**.

**SŌ'MĀ** (pl. **Sŏ'mâtā**), a small body or granule of any kind. Compare **MICROSOMA**.

**SŌMĀT'IC CELLŚ**, cells forming a part of the body of the individual, not modified for any particular purpose; especially the growth-cells of an organism, in distinction from reproductive cells of any kind.

**SŌMĀTŌT'RŌPIŚM**, an influence which the substratum exerts on the direction of growth of certain plants and organs. Thus the hypocotyl of the mistletoe is directed toward the branch (positive somatotropism) and the stem at first away from it (negative somatotropism) upon whatever side of the branch the seed is situated.

**SŌR'DID**, of a dirty white or muddy color.

**SŌRĒ'DIĀ**, pl., see **SOREDĪUM**.

**SŌRĒ'DIĀL BRANCH**, a branch produced by the development of a soredium into a new thallus while still on the mother-thallus.

**SŌRĒ'DIĀTE**, see **SOREDIFEROUS**.

**SŌRĒDĪFĒROŪŚ**, bearing soredia; sorediate.

**SŌRĒ'DIŪM** (pl. **SŏrĒ'diā**), a single gonidial cell or group of gonidia in lichens, surrounded by a web of hyphæ, which is thrust out of the thallus and grows directly into a new lichen; brood-bud.

**SŌ'RĪ**, pl., see **SORUS**.

**SŌRĪFĒROŪŚ**, bearing sori.

**SŌ'RŌSE**, (1) heaped or clustered together; (2) bearing a sorosis, or in the form of a sorosis.

**SŌRŌ'SĪŚ** (pl. **Sŏrŏ'sēs**), a collective fruit, consisting of a consolidated fleshy spike, as the mulberry and pineapple.

**SŌR'RŌWFŪL FLOW'ĒRŚ**, those which exhale their odors only at certain hours of the day, as *Pelargonium triste*. (Rare.)

**SŌ RŪŚ** (pl. **Sŏ'rĭ**), a heap or collection of spores or other objects, as a "fruit-dot" or group of sporangia in ferns.

**SPĀDĪÇEOŪŚ**, resembling or bearing a spadix.

**SPĀ'DICŌSE**, resembling a spadix.

**SPĀ'DĪX**, a spike, usually fleshy, enclosed within a spathe.

**SPĀN**, the space between the tip of the thumb and that of the little finger, separated as widely as possible: nine inches.

**SPĀRSE**, few and scattered.

**SPĀ'THĀ**, see **SPATHE**.

**SPĀTHĀÇEOŪŚ**, bearing or resembling a spathe; spathose.

**SPĀ THAL**, furnished with a spathe. (Rare).

**SPĀTHE**, a large bract, usually colored, enclosing or subtending an inflorescence, which is generally a spike (spadix).

**SPĀTHĒL'ĻĀ** (pl. **Spāthēl'ļæ**) (rare). (1) a glume in grasses; (2) a spathilla.

**SPĀTHĪL'LA** (pl. **Spāthil'ļæ**), a diminutive or secondary spathe, as in palms.

**SPĀTH'ŌSE**, see **SPATHACEOUS**.

**SPĀTH'ŪLĀTE**, see **SPATULATE**.

**SPĀT'ŪLĀTE**, flat, with a linear base and gradually rounded summit, like a druggist's spatula; spatulate.

**SPAWN**, the mycelium of mushrooms; occasionally applied to that of some other fungi

**SPĒ'ÇIES**, the lowest well-defined natural group of plants, the

individuals of which differ but slightly among themselves and are sharply distinguished from those of other groups. They reproduce themselves from seed for successive generations with little or no variation. Compare GENUS and VARIETY.

**SPĚČIEŠ-HŮBRĪD**, see HYBRID.

**SPĚČIFĪC**, relating to species.

**SPĚČIFĪC CHĀR'ĀCTĒRS**, the features which distinguish the plants of one species from those of all others.

**SPĚČIFĪC NĀME**, the name of the species, forming a part of the botanical name; trivial name.

**SPĚČĪMEN**, a plant or portion of a plant prepared and preserved for study.

**SPĚRMĀGŌNE**, see SPERMOGONIUM.

**SPĚRMĀGŌNĪŪM**, see SPERMOGONIUM.

**SPĚRMĀPHŌRE**, see SPERMOPHORE.

**SPĚRMĀTĪFĒROŮS**, bearing spermatia.

**SPĚRMĀ'TĪŪM** (pl. *Spērmā'tiā*), a non-motile male gamete (spermatozoid) in the red algæ. Also applied to certain minute non-germinating spore-like bodies in fungi, some of which have been regarded as functionless male gametes. Many of these are now known to be *stylospores* capable of germination.

**SPĚRMĀTŌČŸST**, the mother-cell of a spermatozoid.

**SPĚRMĀTŌZŌ'ID**, see ANTHEROZOID and SPERMATIUM.

**SPĚRMĀTŌZŌ'ŌN** (pl. *Spērmātōzō'ā*), see ANTHEROZOID.

**SPĚRM - ČĒLL**, a male repro-

ductive cell (gamete). Compare GERM-CELL.

**SPĚRM'IC**, pertaining to seed.

**SPĚRMĪD'ĪŪM** (pl. *Spērmīd'īā*), an old term for achenium.

**SPĚRM-NŮ'CLĒŪS**, the nucleus of a male gamete (male pronucleus) which coalesces with the nucleus of a female gamete (female pronucleus) to form a germ-nucleus; spermo-nucleus. In the pollen-tube it is called the generative nucleus, which see.

**SPĚR'MŌDĒRM**, the covering of a seed, consisting of the several coats taken together; seed-coat.

**SPĚRMŌGŌ'NĪŪM** (pl. *Spērmōgō'niā*), a cell or receptacle in which spermatia are produced.

**SPĚRMŌ-NŮ'CLĒŪS**, see SPERM-NUCLEUS.

**SPĚR MŌPHŌRE**, an old term, applied both to funiculus and placenta. See TROPHOSPERM.

**SPĚR'MŌPHŸTE**, a plant which produces true seeds instead of spores; a flowering plant.

**SPĚRMŌTHĒ'ČĀ**, an old term for pericarp.

**SPĚR MOŮS**, see SPERMIC.

**SPĤĀČĒLĀTE**, dark and withered as though dying or dead; like a sphacelium.

**SPĤĀČĒ'LĪĀ**, a former genus of fungi, now known to be the first or conidia-bearing stage of *Claviceps* when it appears as the spur or ergot.

**SPĤĀČĒ'LĪŪM**, see SPHACELIA.

**SPĤĒRĀPH'IDĒS**, sphere-crystals, especially if composed of needle-shaped parts.

**SPĤĒRE - CRŸSTALS**, spherical aggregations of crystals, either irregularly united or having a radiating structure. Compare

CYSTOLITH and SPHÆRAPHIDES.

SPHÆRŌ-CRÝ'STAL, see SPHERE-CRYSTAL.

SPĪCĀTE, arranged in a spike; spike-like; spicose.

SPĪCĪFĒROŪS, bearing or producing spikes.

SPĪCĪFŌRM, spike-shaped.

SPĪCŌSE', bearing spikes or arranged in spikes; spicous.

SPĪCŪLĀ (pl. Spic'ulæ), see SPICULE.

SPĪCŪLAR, resembling a spicule or bearing spicules.

SPĪCŪLĀTE, (1) covered with spicules; (2) bearing or composed of spikelets. (Rare.)

SPĪCŪLĀTION, a term employed by Nylander for an attenuated constriction of the hypha in the formation of spores, leaving the extremity as a spicule after the separation.

SPĪCŪLE, (1) a small pointed appendage somewhat soft or fleshy, like the sterigmata of fungi; (2) a needle-like crystal; (3) a spikelet (obs.); spicula.

SPIKE, an inflorescence of sessile or nearly sessile flowers on a single elongated axis. See SPADIX, AMENT, SPIKELET, and COMPOUND SPIKE.

SPIKE'LĒT, (1) a secondary spike; (2) in grasses a flower (or ultimate flower-cluster) usually enclosed by one or more (generally two) empty glumes; locusta.

SPĪN'DLE, (1) a name sometimes given to the tassel of Indian corn; (2) see NUCLEAR SPINDLE.

SPĪN'DLE-FĪBRES, the achromatic filaments which form the nuclear spindle; spindle-

threads; nuclear fibrils and cell-fibres of Strasburger; conjunctive threads of Fol (probably).

SPĪN'DLE-SHĀPED, see FUSIFORM.

SPĪNE, any sharp, rigid process of considerable size which is not a transformed branch; especially an organ, such as a leaf, stipule, tooth, etc., of whatever size, which is modified by becoming sharp and rigid for protection. In general, where no other distinction exists, as in the cactus, spines are considered merely as sharp processes intermediate in size and rigidity between thorns and prickles. See THORN and PRICKLE.

SPĪNĒSÇENT, somewhat spiny in structure, or bearing few spines. Compare SPINULESCENT.

SPĪNĪFĒROŪS, bearing a spine or spines; spinigerous.

SPĪNĪFŌRM, shaped like a spine or thorn.

SPĪNĪGĒROŪS, see SPINIFEROUS.

SPĪNŌSE', bearing spines; covered with spines; spinous; spiny.

SPĪNOŪS, spinose or spiny.

SPĪNŪLE, a very small spine.

SPĪNŪLĒSÇENT, slightly spiny in structure, or bearing small spines; spinulose. Compare SPINESCENT.

SPĪNŪLĪFĒROŪS, bearing very small spines.

SPĪNŪLOSE, spinulescent; especially, bearing many small spines.

SPĪN'Ŷ, bearing spines; having the nature of a spine; terminating in a spine.

**SPĪRAL DŪCT**, see **SPIRAL VESSEL**.

**SPĪRAL MĀRK'ING**, the spiral fibrous thickening characteristic of spiral ducts or vessels.

**SPĪRAL VĒS'SĒL**, a duct or vessel having fibrous thickenings upon the wall in the form of a coil or spiral. Formerly called Trachea.

**SPĪRE**, (1) a young leaf or shoot of grass; (2) the continuation of the trunk, in excurrent trees like pines, above the insertion of the lowest branches; (3) one turn of a coil or spiral.

**SPĪRĪCLE**, a minute spiral thread or filament.

**SPĪTH'ĀMĀ** (obs.), see **SPAN**.

**SPLĀSHED** (Hort.), having broken stripes of various sizes. Used mainly in describing the coloring of apples.

**SPLĪT**, the same as **Parted**. (Obs.)

**SPŌN'GIŌLE**, a term formerly applied to the extreme apex of growing roots, which was erroneously supposed to be devoid of epidermis and specially fitted for the absorption of food from the soil. See **ROOT-CAP**.

**SPŌNTĀ'NĒOŪS ĠĒNĒRĀ'TION**, the development of living organisms from dead or inorganic matter; equivocal generation; heterogenesis; abiogenesis; autogenesis. The theory of spontaneous generation is not now held by scientists.

**SPOŌN'FŌRM**, having the inner surface of a leaf concave or dish-shaped, as the outer leaves of a cabbage-head. (E. S. Goff.)

**SPŌRĀD'ĪC**, scattered; occurring apart from others of the same kind.

**SPŌRĀNGĒ'**, see **SPORANGIUM**.

**SPŌRĀNGĪD'ĪŪM**, (1) the columella in mosses; (2) a sporangium. (Rare.)

**SPŌRĀN'GIŌLE**, an old term for **Ascus**. Also applied to a small sporangium produced in some genera of *Mucorini* in addition to the large form, the spores being similar in both; **sporangiolium**.

**SPŌRĀNGĪŌLŪM**, see **SPORANGIOLE**.

**SPŌRĀN'GIŌPHŌRE**, the stalk, support, or receptacle of a sporangium, including such supports as the sporophyll in *Equisetaceæ* and the axis or columella from which the sporangia arise in the sori of certain ferns.

**SPŌRĀNGĪOPH'ŌRŪM**, see **SPORANGIOPHORE**.

**SPŌRĀN'GIŪM** (pl. *Spŏrān'giā*), any case or capsule immediately enclosing spores. Applied chiefly to certain kinds which have not received special names, such as the spore-cases of ferns and the *Mucorini*, and rarely used for **Ascus**, cluster-cup, and other named forms.

**SPŌRE**, one of the reproductive bodies of cryptogams which take the place of the seeds of flowering plants, but from which they differ in containing no embryo. Spores usually and properly consist of but one cell, which differs materially in character from the other cells of the plant. They may thus be distinguished from *gemmae*, produced by comparatively few plants, which usually contain a number of cells only slightly differing from those of the plant producing them. In a

restricted sense, proposed by Sachs, the term *spore* is applied to reproductive bodies which arise either directly or indirectly as the result of fertilization, in distinction from *gonidium*, which is applied to those produced asexually. Spores in this restricted sense are by De Bary termed *carpospores*. See *ÆCIDIOSPORE*, *MACROSPORE*, *OÖSPORE*, *PROTOSPORE*, *TELEUTOSPORE*, *TETRASPORE*, *UREDOSPORE*, *ZOO-SPORE*, *ZYGOSPORE*, etc.

**SPÖRE-CÄSE**, see **SPORANGIUM**.

**SPÖRE-ÇĖLL**, a spore, or a cell which gives rise to a spore.

**SPÖRE-GROUᖑ**, see **COMPOUND SPORE**.

**SPÖ'RĪD**, see **SPORIDIUM**.

**SPÖ'RĪDĖSM**, see **COMPOUND SPORE**.

**SPÖRĪD'ĪŪM** (pl. *SpörĪd'ĭä*), a spore produced upon a promycelium; germ-cell; secondary spore. Formerly applied to any spore, especially if very small, and still improperly used for *Ascospore*.

**SPÖRĪF'ĖROŪS**, spore-bearing.

**SPÖ'RÖCÄRP**, a group of spores resulting from fertilization, together with enclosing or attendant parts. It is thus the fructification developed from an archicarp or procarp in fungi and *Rhodophyceæ*; also the sporogonium in mosses. The term is also used for the body enclosing the sporangia in heterosporous *Filicinææ*. Compare **SPOROGONIUM**.

**SPÖRÖCÄR'PIŪM**, see **SPOROCARP**.

**SPÖRÖCLÄ'DĪŪM**, a spore-bearing branch, as a *stichidium* in *Florideææ*.

**SPÖ'RÖÇŸST**, the mother-cell of a spore; sporocyte: occasionally also applied to certain sporangia in *algææ*.

**SPÖ'RÖÇŸTE** (Goebel), see **SPOROCYST**.

**SPÖ'RÖDĖRM**, the coat or covering of a spore, including exospore and endospore. Compare **SPERMODERM**.

**SPÖRÖDÖ'ĖHĪŪM** (pl. *Spörödö'ehĭä*), a spore-bearing or spore-holding apparatus. Applied mainly to the sporiferous mass, including the spores, in the *Tuberculariææ*.

**SPÖ'RÖGĖN**, a plant which produces spores; cryptogam. Compare **SPERMOPHYTE**.

**SPÖ'RÖGÖNE**, see **SPOROGONIUM**.

**SPÖRÖGÖ'NĪŪM** (pl. *Spörögö'niä*), the whole product of the sexual act in the higher cryptogams; asexual generation; sporophore; sporophyte; oöphyte. In ferns it is the segment or stage in the life-cycle which we see as the ordinary fern-plant. Compare **PROTHALLUS**.

**SPÖ'RÖID**, spore-like.

**SPÖ'RÖPHÖRE**, a stalk supporting one or more spores; any spore-bearing apparatus or receptacle, such as a *gonidiophore*, *sporangium*, or *ascophore*; particularly the second or asexual generation in plants having a distinct alternation of generations, such as ferns and mosses (*sporogonium*). Compare *Oöphore*. See **SIMPLE SPOROPHORE**, **COMPOUND SPOROPHORE**, and **BASIDIUM**.

**SPÖ'RÖPHŸL**, the same as *Sporophyll* or *Sporophyllum* and a spelling now in frequent use.

**SPÖ'RÖPHŸLL**, see **SPOROPHYLLUM**.

**SPÖRÖPHYL'LŪM** (pl. Spörö-phyl'lā), a spore-bearing leaf of any kind; sporophyl. Formerly applied to leaf-like lobes of the thallus in algæ bearing tetraspores.

**SPÖRÖPHŪTE**, see SPOROGONIUM.

**SPÖRÖSTĒ'ĠIŪM** (pl. Spöröstē'ġiā), the oösporangium or fruit (nucule) of the Characeæ.

**SPÖRT**, a plant, or portion of a plant, which has suddenly assumed an appearance very different from that characteristic of the variety or species; a seed- or bud-variation, but said mainly of the latter. Its peculiarity is not usually capable of being perpetuated by seed. When a sport is propagated artificially it continues to be called a sport. Monstrosities or extreme malformations are not usually given this name. See VARIATION, SEED-VARIATION, and BUD-VARIATION.

**SPÖRŪLĀ'TION**, the production of spores.

**SPÖR'ŪLE**, a small spore. Often unsuitably applied to ascospores. Compare SPORIDIUM.

**SPÖRŪLĪF'ĒROŪS**, producing sporules.

**SPÖRŪLĪĠ'ĒROŪS**, see SPORULIFEROUS.

**SPÖT'TĒD**, covered with large dots: said of fruits.

**SPRĀWLS**, a local or obsolete term for small branches or twigs.

**SPRĒAD'ING**, said of branches which bend outward considerably, but at less than a right angle.

**SPROUT**, any quickly grown part, as a young root or stem from

the seed, or a vigorous branch arising from the root or stem. See WATER-SPROUT.

**SPROUT-ĈĒLL**, in fungi, a cell produced by sprouting or pullulation.

**SPROUT-CHĀIN**, a row of united cells in fungi formed by budding (pullulation.)

**SPROUT-ĠĒM'MĀ**, in fungi, a gemma having the form of a septate confervoid filament the segments of which are capable of sprouting. (De Bary.)

**SPROUT-ĠĒRMĪNĀ'TION**, the manner of germination of a spore in which a small process with a narrow base protrudes at one or more points on the surface of the spore, then assumes an elongated cylindrical form, and is finally detached as a sprout-cell. (De Bary.)

**SPROUT'ING**, see PULLULATING and GERMINATION.

**SPŪMĒS'ĈENT**, resembling froth or foam; spumose.

**SPŪMÖSE'**, see SPUMESCENT.

**SPŪR**, (1) a short, stout branch, as those in the larch bearing a tuft of leaves or in the apple bearing the fruit; (2) a tubular appendage of a petal or sepal, usually containing nectar, as in larkspur (calcar); (3) the sclerotium of ergot.

**SPŪ'RĪOŪS**, see FALSE.

**SPŪ'RĪOŪS BRĀNCH**, see PSEUDORAMULUS.

**SPŪ'RĪOŪS FRŪIT**, a collective, aggregate, or accessory fruit.

**SPŪ'RĪOŪS TĪS'SŪE**, see FELTED TISSUE.

**SPŪ'RĪOŪS WHÔRL**, one which is formed by displacement and unequal growth of the axis. (Sachs.)

**SPURRED**, bearing a spur; calcarate.

**SQUĀ'MĀ** (pl. *Squā'mæ*), a scale of any kind, as one of the leaves of a bud.

**SQUĀMĀ'CEŪS**, see **SQUAMOSE**.

**SQUĀ'MĀFŌRM**, see **SQUAMIFORM**.

**SQUĀ'MĀTE**, see **SQUAMOSE**.

**SQUĀMĒL'LĀ** (pl. *Squāmēl'læ*), diminutive of *Squama*: a small scale, as the bracts upon the head in *Compositæ*; *squamula*.

**SQUĀMĒL'LĀTE**, diminutive of *Squamate*. See **SQUAMULOSE**.

**SQUĀMĒLLĪF'ĒROŪS**, bearing squamellæ.

**SQUĀMĒL'LĪFŌRM**, like a small scale; *squamuliform*.

**SQUĀMĪF'ĒROŪS**, scale-bearing; *squamigerous*; *squamos*.

**SQUĀMĪFLŌ'ROŪS**, having flowers which resemble scales or are borne upon scales.

**SQUĀ'MĪFŌRM**, scale-shaped; *squamoid*.

**SQUĀMĪG'ĒROŪS**, see **SQUAMIFEROUS**.

**SQUĀ'MŌID**, see **SQUAMIFORM**.

**SQUĀMŌSE'**, scale-like; covered with scales; consisting of scales; *squamous*; *squamate*; *squamaceous*. See **SQUAMIFORM** and **SQUAMIFEROUS**.

**SQUĀ'MŌŪS**, pertaining to scales, or *squamos*.

**SQUĀ'MŌŪS BŪLB**, see **SCALY BULB**.

**SQUĀM'ŪLĀ**, see **SQUAMELLA**. Formerly applied to the lodicule of grasses.

**SQUĀM'ŪLĀTE**, see **SQUAMULOSE**.

**SQUĀM'ŪLĪFŌRM**, see **SQUAMELIFORM**.

**SQUĀM'ŪLŌSE**, diminutive of *Squamos*; having or resem-

bling small scales; *squamellate*; *squamulate*.

**SQUARRŌSE'**, having lateral organs, as leaves, extending at about right angles to the axis.

**SQUĀR'RŪLŌSE**, somewhat squarrose.

**STĀG'HĒADĒD**, a term applied in forestry to a tree which is dying at the top.

**STĀINED**, faintly colored—applied to fruits.

**STALKED GLĀND**, see **GLANDULAR HAIR**.

**STALK'LET**, a secondary or very small stalk. See **SECONDARY PETIOLE** and **SECONDARY PEDUNCLE**.

**STĀ'MĒN**, the pollen-bearing organ of a flower, usually consisting of an anther, or part immediately enclosing the pollen, and a filament or stalk.

**STĀM'ĪNAL** (obs.), see **STAMINATE**.

**STĀM'ĪNĀTE**, pertaining to stamens; containing stamens but no pistils—said of a plant or flower. See **STAMINEAL**.

**STĀMĪN'ĒAL**, formed of stamens; attached to stamens; having marked reference to stamens; *stamineous*; *staminate*.

**STĀMĪN'ĒAL CŌL'ŪMN**, see **ANDROPHORE**.

**STĀMĪN'ĒOŪS**, see **STAMINEAL**.

**STĀMĪNĪD'ĪŪM** (pl. *Stāminĭd'ĭā*) (obs.), see **ANTHERIDIUM**.

**STĀMĪNĪF'ĒROŪS**, bearing stamens; *staminigerous*. Said especially of a plant or flower bearing stamens but no pistils.

**STĀMĪNĪG'ĒROŪS**, see **STAMINIFEROUS**.

**STĀM'ĪNŌDE**, see **STAMINODIUM**.

**STĀMĪNŌ'DĪŪM** (pl. *Stāminŏ'diā*), an altered, abortive, and sterile stamen, or body occupying the

- place of a stamen; staminode; parastemon. See LEPAL.
- STĀM'ĪNŌDŮ**, the conversion of other organs of a flower into stamens.
- STĀM'ĪNŌSE**, having the stamens unusually large or numerous. (Rare.)
- STĀND'ARD**, see VEXILLUM. In horticulture (1) a tree or shrub which stands alone without being attached to any wall or support, as distinguished from an *espalier* or *cordon*; (2) a shrub, as a rose, grafted on an upright stem or trained to a single stem in tree form; (3) in the United States, a fruit-tree grafted upon a free-growing as opposed to one upon a dwarf stock.
- STĀRCH-BŪILD'ĒR**, a plastid, generally a leucoplast, in which a starch-grain originates. See CHROMATOPHORE.
- STĀRCH-GRĀIN**, the grain of starch as it exists in the living plant. It is of definite shape, varying according to species, but always rounded, and formed of successive layers (or apparently so) having a common, and usually eccentric, centre.
- STĀRCH-LĀY'ĒR**, a term sometimes applied to the bundle-sheath, which often serves especially for the storage of starch.
- STĀRCH-STĀR**, a form of bulbil in *Chara stelligera*, consisting of an underground node.
- STĀR'RŮ**, see STELLATE.
- STĀRVED**, see DEPAUPERATE.
- STĀ'SĪMŌRPHŮ**, a changed condition of form or size arising from arrested development.
- STĀ'TION**, a particular limited locality, without regard to character or exposure, in which a species is found. Compare REGION, HABITATION and HABITAT.
- STĀT'ŌSPŌRE**, see RESTING-SPORE.
- STĚGŌCĀR'POŮS**, applied to capsules in mosses which have a distinct lid or operculum.
- STĚL'LĀTE**, star-shaped; radiating.
- STĚL'LĀTE HĀIR**, a hair having several branches arranged in the form of a star, as the hairs of Malpighiaceæ.
- STĚL'LŪLAR**, see STELLULATE.
- STĚL'LŪLĀTE**, diminutive of Stellate; resembling a little star; stellar.
- STĚM**, see TRUNK, PEDUNCLE, PEDICEL and PETIOLE.
- STĚM-CLĀSP'ĪNG**, see AMPLEXICAUL.
- STĚM-LĒAF**, a leaf growing from the stem above the ground. Compare RADICAL LEAF.
- STĚM'LĚSS**, see ACAULESCENT.
- STĚM'LĚT**, a little stem; the first internode above the cotyledons.
- STĚM, SŮBTĚRRĀ'NĚAN**, see SUBTERRANEAN STEM.
- STĚM-TĚN'DRĪL**, a tendril which is a transformed stem, as in the grape. Compare LEAF-TENDRIL.
- STĚNŌPĚT'ALOŮS**, having narrow petals.
- STĚNŌPH'ŮLLOŮS**, narrow-leaved. Compare LATIFOLI-  
OUS.
- STĚNŌ'SĪS**, (1) cell-formation in which there is a direct constriction of the walls of the original cell, as in budding. Compare CYTODIERESIS. (2) The pathological narrowing of a passage.

**STĚRĚĪD**, a cell of stereome, which see.

**STĚRĚŌME**, strengthening tissue: a term applied by Schwendener to that part of a fibrovascular bundle to which it chiefly owes its strength; also to the cortex on physiological grounds, it often serving mainly for support. Compare MESTOME.

**STĚRĚŌPLĀSM**, the solid portion of protoplasm. (Nägeli.) Compare HYGROPLASM.

**STĚRĚŌPLĀSMĀ**, see STEREOPLASM.

**STĚRĪG MĀ** (pl. *Stěrīg mātā*), (1) the downward prolongation of a decurrent leaf upon the stem; (2) a very narrow support to a spore, as the pointed protuberances upon basidia, or the filaments bearing spermatia and stylospores.

**STĚŘĪLE**, (1) unfruitful; barren—as a plant which fails to blossom or fruit, a pericarp which contains no seeds, or a stamen which produces no perfect pollen; (2) devoid of living organisms—used mainly in bacteriology.

**STĚŘĪLE FLOWĚR**, one containing no perfect pistils. It may or may not contain stamens.

**STĚŘĪLIZE**, to render free from all living bodies, as fluids in which bacteria are to be cultivated.

**STĚRNŌTRĪBE**, a term applied to zygomorphic flowers which have the stamens so placed that a visiting insect will receive the pollen upon its under surface, as in most Papilionaceæ. Compare NOTOTRIBE and PLEUROTTRIBE.

**STĚŘŌM**, see STEREOME.

**STĚCHĪDĪŮM** (pl. *Stěchídíá*), a branch of the thallus in red algæ (Florideæ) containing tetraspores.

**STĪG MĀ**, the part of the pistil which receives the pollen. It is usually the apex of the style, variously expanded, which is destitute of epidermis and secretes the “stigmatic fluid,” which see.

**STĪG MĀ-DĪSK**, a disk forming the seat of a stigma, as in *Asclepias*.

**STĪGMĀTĪC CĚLLŠ OF THE ĀRĚHĚGŌNĪŮM**, see LID-CELLS.

**STĪGMĀTĪC CHĀM BĚR**, the part of the rostellum in orchids in which the viscid disk or retinaculum is developed. (Functionless as a stigma.)

**STĪGMĀTĪC FLŮĪD**, a viscid fluid secreted by the stigma at maturity which serves to hold the pollen, and in which the pollen-grains germinate as the first stage of fertilization.

**STĪLŌGŌNĪDĪŮM**, see STYLO-SPORE.

**STĪM ŮLŌSE**, covered with stinging hairs.

**STĪM ŮLŮS** (pl. *Stīm ůlī*), see STINGING-HAIR.

**STĪNG**, see STINGING-HAIR.

**STĪNG ĪNG HĀIR**, a glandular hair which secretes an acrid fluid; sting; stimulus.

**STĪPE**, a term applied to various kinds of stalks or stems, including the petiole of ferns, the stalk of a mushroom, the stem of a pappus above the seed, the stalk of an ovary raising it above the receptacle, etc. Various forms of stipes in flowering plants are distinguished under the terms *thecaphore*, *gynophore*, *antho-*

*phore, gynobase, gonophore, carpophore.*

**STĪ'PĒĻ**, the stipule of a leaflet.

**STĪPĒĻ/LĀTE**, furnished with stipules.

**STĪ'PĒŠ**, an uncommon spelling of Stipe.

**STĪ'PĪFŌRM**, resembling a stipe; stipitiform.

**STĪ'ĪTĀTE**, having a stipe; supported on a stipe.

**STĪ'ĪTĪFŌRM**, see STIPIFORM.

**STĪP'ŪLĀ** (pl. Stip'ulæ), see STIP-ULE.

**STĪPŪLĀ'ČEOŪŠ**, see STIPULAR.

**STĪP'ŪLAR**, having stipules; formed of stipules; situated near or upon stipules; pertaining to stipules; stipulaceous.

**STĪP'ŪLĀRŲ**, formed of stipules.

**STĪPŪLĀTE**, having stipules; stipulated; stipuled.

**STĪP'ŪLĀTĒD**, see STIPULATE.

**STĪPŪLĀ'TION**, the situation or arrangement of the stipules.

**STĪP'ŪLE**, an organ situated in pairs upon the stem, one on either side of the petiole at its base and often adherent to it. They are usually expanded, scale-like or leaf-like, but sometimes exist in the form of glands, prickles, tendrils, or other organs, and are often wanting altogether. They frequently serve for protection to the bud or growing point, and fall away as the bud expands and the leaves develop.

**STĪP'ŪLED**, see STIPULATE.

**STĪPŪĻĪF'ĒROŪŠ**, bearing stipules.

**STĪP'ŪLŌSE**, having very large stipules. (Rare.)

**STŌCK**, (1) the persistent base of an herbaceous perennial;

(2) any plant or part considered with reference to another part which it supports; (3) in horticulture a tree or other plant which receives a bud or graft; (4) the original or originals (parentage) of a species or variety; (5) a seedman's term for a quantity of seed grown in a particular locality or from a particular source. It does not imply any peculiarity of character. Compare STRAIN.

**STŌLE**, see STOLON.

**STŌ'LŌN**, a slender branch, above or below the surface of the ground, which takes root or bears a bulb at the extremity where it forms one or more new plants; stole; sobole. Compare RUNNER, RHIZOME, and OFFSET.

**STŌLŌNĪF'ĒROŪŠ**, bearing stolons.

**STŌ'MĀ** (pl. Stōm'atā), an opening in the epidermis for the admission of air and liberation of moisture; breathing-pore. See GUARD-CELLS.

**STŌ'MĀTE**, see STOMA.

**STŌMĀT'ĪC**, pertaining to a stoma.

**STŌMĀT'ĪC ČĚLLŠ**, see GUARD-CELLS.

**STŌMĀT'ĪC CHĀM BĚR**, the intercellular space beneath a stoma; substomatic chamber; air-chamber; respiratory chamber; respiratory cavity. See CISTOME. Compare ANTE-CHAMBER and VESTIBULE.

**STŌMĀTĪF'ĒROŪŠ**, bearing stomata; stomatose.

**STŌM'ĀTŌSE**, see STOMATIFEROUS.

**STŌNE**, the bony endocarp of a drupe, containing the seed; pit.

**STŌNE-FRUIT**, see **DRUPE**.

**STŌOL**, a plant upon which offshoots of any kind are produced, usually for propagation, as in the raspberry and strawberry; especially, a plant of wheat, oats, rye, or barley which has several stems from one root.

**STŌOL**, v. i., to tiller, as grain; to throw out suckers.

**STRĀ'GLĪNG**, see **DIVARICATE**.

**STRĀIN**, (1) the influence of a particular ancestor existing in an individual or variety; (2) a seedsman's term for a stock of seed or subordinate variety which has been bred in a special manner and acquired a slight individual character, as "an excellent *strain* of Fottler's cabbage."

**STRĀMĪN'ĒOŪS**, like straw; especially, straw-colored; pale yellow.

**STRĀND**, a fibrovascular bundle; a branch of mycelium, or similar vegetable filament; specifically, a branch of fibrous mycelium, which see.

**STRĀN'GŪLĀTĒD**, applied to a root or stem which is contracted at intervals, as though growth had been restricted by cords or bandages wrapped around it. Compare **MONILIFORM**.

**STRĀP**, the ligule of a ray-floret in **Compositæ**.

**STRĀP-SHĀPED**, broad, flat, and linear, like a belt; ligulate.

**STRĀTĪFĪCĀTION**, the thickening of a cell-wall by the deposition of successive layers of formed material; also the arrangement of the layers so deposited.

**STRĀT'ĪFIĒD THĀL'LŪS**, a thallus in lichens in which the

gonidia or algal cells are disposed in one or more layers.

**STRĀ'TŌSE**, in distinct layers or strata.

**STRĀW**, the stems of various edible grains, as wheat and oats, especially after being threshed. Extended also to the haulm of peas, beans, etc.

**STRĒAK** (Hort.), a long narrow stripe.

**STRĒAM'ING OF PRŌ'TŌPLĀŠM**, see **ROTATION**.

**STRĪ'Ā** (pl. **Strī'æ**), a straight and very narrow mark or groove.

**STRĪ'ĀTE**, marked with parallel striæ. Compare **SULCATE**, **RIVULOSE**, **ACICULATED**, and **LINEATE**.

**STRĪCT**, straight or upright; having branches close together and erect; opposed to **Lax**. Differs from **Fastigate** in being applied chiefly to herbs and shrubs instead of trees and in not necessarily having a pointed top.

**STRĪ'GĀ** (pl. **Strī'gæ**), a sharp-pointed, rigid, appressed bristle or hair-like scale.

**STRĪG'ILŌSE**, minutely strigose.

**STRĪGŌSE'**, covered with strigæ. Formerly regarded as synonymous with **Hispid**.

**STRĪKE** (Hort.), to take root, as a cutting.

**STRĪNG**, any fibre; strand.

**STRĪ'OLĀTE**, diminutive of **Striate**, having very fine striæ.

**STRĪPED**, having longitudinal lines of color, broader than **Streaked** and narrower than **Banded**; having longitudinal colored marks of any character.

**STRŌBĪLĀ'ĒOŪS**, cone-bearing; cone-like; pertaining to cones.

**STRŌB'ĪLE**, see **CONE**.

**STRŌBĪLĪF'ĒROUS**, coniferous.

**STRŌBĪL'ĪFŌRM**, cone-shaped.

**STRŌBĪ'LŪS**, see **CONE**.

**STRŌ'MĀ** (pl. **Strŏ'mâtā**), a mass in which another object is embedded, as a protein granule which contains a crystal or starch-grain. Especially, a compact mass of mycelium upon or within which spores or sporangia are borne—applied mainly to tissue in which perithecia are embedded. Compare **HYMENIUM**.

**STRŌ'MĀTŌID**, having the nature or appearance of a stroma.

**STRŌ'MĀTŌŪS**, bearing or producing stromata.

**STRŌMBŪLĪF'ĒROŪS**, bearing spirally twisted pods (strombi).

**STRŌMBŪ'LĪFŌRM**, twisted in a spiral, like the pods of alfalfa; cochleate.

**STRŌM'BŪS** (pl. **Strŏm'bī**), a spirally coiled legume, like that of alfalfa, *Medicago sativa*; cochlea.

**STRŌ'PHĒ**, an old term for leaf-spiral.

**STRŌ'PHĪŌLĀTE**, furnished with a strophiole.

**STRŌ'PHĪŌLE**, see **CARUNCLE**.

**STRŪC'TŪRAL BŌT'ĀNŸ**, the study of the form and arrangement of the parts of plants, including morphology and histology; vegetable anatomy; phytotomy.

**STRŪ'MĀ**, a one-sided swelling or protuberance of any kind, as the one-sided enlargement (apophysis) at the base of the capsule in some mosses, or the pulvinus of a leaf or leaflet. The term is now seldom used except in mosses.

**STRŪ'MĪFŌRM**, like a struma in appearance.

**STRŪMŌSE'**, swollen upon one

side like a goitre; bearing a struma.

**STRŪ'MŪLŌSE**, slightly strumose.

**STŪFFED**, the same as **Solid**, or the old term **Farcate**, but seldom applied except to stems having a fibrous or spongy centre. Used mainly in mushrooms.

**STŪMP'-RŌŌTĒD**, applied in vegetable gardening to the roots of certain varieties of the radish, carrot, etc., which, instead of tapering gradually from the fleshy edible portion to the slender tap-root, have the transition abrupt. The term is not applied to the roots of turnip beets, flat turnips, etc., but only to such as are more elongated.

**STŪ'PĀ**, a tuft of matted hairs resembling tow. (Obs.)

**STŪ'PĒŌŪS**, see **STUPOSE**.

**STŪPŌSE'**, resembling tow; covered with matted hairs resembling tow; stupeous.

**STŸLE**, the slender part of a pistil supporting the stigma.

**STŸLĪF'ĒROŪS**, style-bearing.

**STŸ'LĪFŌRM**, style-shaped.

**STŸLŌGŌNĪD'ĪŪM**, see **STYLO-SPORE**.

**STŸ'LŌPŌD**, see **STYLOPODIUM**.

**STŸLŌPŌ'DĪŪM**, the fleshy disk crowning the ovary in most Umbelliferae, formed by the expanded bases of the two styles.

**STŸLŌSE'**, having the styles remarkably long, numerous, or persistent. (Rare.)

**STŸ'LŌSPŌRE**, a stalked spore, sometimes septate, produced in a pycnidium; stylogonium; pycnogonium; pycnospore; pycnidiospore; clinospore.

**STYLÖSTĒ'GIŪM** (pl. *Stylöstē-giā*), the peculiar orbicular corona, called sentum or shield, which terminates the style in *Stapelia* and similar asclepiads.

**STYLÖSTĒ'MŌN**, an epigynous stamen. (Rare.)

**SUĀVĒ'ÖLENT**, sweet-scented.

**SUB-**, a Latin prefix meaning under, beneath, subordinate, or partially.

**SŪBĀCŪTE'**, moderately acute.

**SŪBĀĒ'RĪAL**, situated just above the ground or substratum, but covered with fallen leaves, etc., as many rhizomes.

**SŪBĀPIC'ŪLĀTE**, having a small or poorly defined apiculus or point.

**SŪBĀRBÖRĒS'CENT**, somewhat tree-like.

**SŪBAX'ILLĀRŸ**, situated beneath the axil.

**SŪBCAULĒS'CENT**, with the leafy stem so short as to be hardly noticeable, but rather more developed than in *Acaulescent*.

**SŪBCĒS'PĪTÖSE**, somewhat inclined to grow in bunches. See *CESPITÖSE*.

**SŪB'CLĀSS**, a group of orders or cohorts next subordinate to a class.

**SŪBCŌNCĀT'ĒNĀTE**, growing somewhat in chains—in short or imperfect rows or chains.

**SŪBCŌN'ICAL**, slightly conical.

**SŪBCŌNTĪN'ŪÖÜS**, rarely or imperfectly septate; seldom or slightly constricted.

**SŪBCŌR'DĀTE**, slightly cordate.

**SŪBCRĒ'NĀTE**, slightly or obscurely crenate.

**SŪBCŪL'TRĀTE**, slightly cultrate.

**SŪBDĒN'TĀTE**, imperfectly or

obscurely dentate. Compare *DENTICULATE*.

**SŪBDĒNTĪC'ŪLĀTE**, obscurely denticulate; having small, imperfect marginal teeth.

**SŪBĒFFŪSE'**, having slightly spreading branches or filaments.

**SŪBĒNTĪRE'**, only slightly notched or toothed.

**SŪBĒPĪDĒR'MAL TĪS'SŪE**, see *HYPODERMA*.

**SŪ'BĒR**, see *CORK*.

**SŪBĒRECT'**, nearly erect.

**SŪBĒ'RĒÖÜS**, see *SUBERÖSE*.

**SŪ'BĒRĪN**, cork - substance—nearly or quite the same as *Cutin*. See *CORK*.

**SŪBĒRĪPĪCĀ'TION**, see *SUBERIZATION*.

**SŪBĒRIZĀ'TION**, conversion into cork; suberisation; suberification.

**SŪBĒRÖSE'**, having somewhat the appearance of being gnawed; slightly *erose*. Compare *ERÖSE*.

**SŪ'BĒRÖSE**, of the nature of cork; suberous.

**SŪ'BĒRÖÜS**, see *SUBERÖSE*.

**SŪBFĀM'ĪLŸ**, a group of genera subordinate to a family.

**SŪBFLĒX'ŪÖSE**, slightly wavy.

**SŪBGĒNĪC'ŪLĀTE**, slightly bent.

**SŪBGĒ'NŪS**, a species, or group of species, having nearly the rank of genus.

**SŪBGLÖBÖSE'**, nearly globose.

**SŪBHŸMĒ'NĪŪM**, a layer of tissue next below the hymenium; hypothecium.

**SŪBĪC'ŪLŪM**, a term applied by M. C. Cooke to the abnormally thickened portion of a leaf or stem bearing the cluster-cups in *Æcidium*.

- SŮBKĚŇŮDŮM**, the highest subdivision of a kingdom, as the phenogams and cryptogams among plants; series. Some recent botanists divide the vegetable kingdom into more than two subkingdoms.
- SŮBLĚŇŮTĚČŮLAR**, somewhat lens-shaped.
- SŮBMĚŘŮGĚŇAL**, situated near the margin.
- SŮBMĚŘŮGĚŇ**, see SUBMERSED.
- SŮBMĚŘŮGĚŇ**, growing under water; submerged; demersed.
- SŮBNĚSČĚŇT**, originating or growing beneath any object.
- SŮBNŮDE**, nearly destitute of hairs, leaves, or other covering.
- SŮBŮBTŮSE**, slightly obtuse.
- SŮBŮRBĚČŮLAR**, nearly circular; subrotund. Compare SUBGLOBOSE.
- SŮBŮRĚDĚŇ**, a group of genera within an order. Compare TRIBE.
- SŮBŮVATE**, somewhat ovate.
- SŮBPĚDŮŇČŮLĚTE**, having a very short peduncle; subsessile.
- SŮBPĚTĚČŮLAR**, situated beneath the petiole, i. e., under (within) the base of the petiole, as the leaf-bud in sycamore. Compare SUBPETIOLATE.
- SŮBPĚTĚČŮLĚTE**, having a very short petiole; subsessile. Compare SUBPETIOLAR.
- SŮBRĚMŮSE**, having very few branches; subsimple. Compare RAMOSE.
- SŮBRĚČŮD**, slightly rigid.
- SŮBRŮTŮND**, see SUBORBICULAR.
- SŮBSĚŘŮRĚTE**, sparsely or obscurely serrate. Compare SERRULATE.
- SŮBSĚSČŮLE**, nearly sessile; subpetiolate or subpedunculate.
- SŮBSĚRŮBČŮ**, see FRUTESCENT.
- SŮBSĚDĚČĚŇ ČĚLL**, see ACCESSORY CELL.
- SŮBSĚMČPLE**, with very few subdivisions or branches.
- SŮBSĚPĚČĚS**, a variety nearly equal in rank to a species; a marked variety.
- SŮBSTĚTŮTE FĚBRE**, a term applied by Sanio to a prosenchymatous cell larger in diameter than a libriform cell and without its attenuated ends. Not in general use.
- SŮBSTŮMĚTĚČ ČĚMČBĚŇ**, see STOMATIC CHAMBER.
- SŮBSTĚRĚTŮSE**, in somewhat indistinct or irregular layers or strata.
- SŮBTĚND**, to embrace in its axil. A flower is *subtended* by a bract when there is a bract situated beneath it. Nearly all buds are *subtended* by leaves.
- SŮBTĚRĚTE**, somewhat terete.
- SŮBTĚRRĚNĚAN**, beneath the surface of the ground; hypogean.
- SŮBTRĚBE**, a group of genera subordinate to a tribe.
- SŮČŮLĚTE**, narrow, and tapering to a sharp rigid point, as the leaves of juniper; awl-shaped.
- SŮČŮLĚČĚROŮS**, furnished with awl-shaped spines. (Obs.)
- SŮČŮLĚFŮŇM** (obs.), see SUBULATE.
- SŮČŮMČBĚLLĚTE**, somewhat umbelliform, as the flower-cluster of the apple.
- SŮVĚRĚČĚTČ**, a subordinate variety; a variety within a variety.
- SŮVĚŇTRĚČŮSE**, somewhat ventricose or inflated.

**SŪBVĒRTIĈ'ILLĀTE**, slightly verticillate; in imperfect or irregular whorls.

**SŪCCĒDĀ'NĒŪM**, a substitute.

**SŪCCĒS'SIVE WHÔRL**, a whorl the members of which do not all originate at the same time, but in succession, either in regular order or otherwise. Compare **SIMULTANEOUS WHORL**.

**SŪCCĪF'ĒROŪS**, producing or conveying sap.

**SŪCCĪSE'**, terminating abruptly, as though cut sharply off. Compare **TRUNCATE** and **PREMORSE**.

**SŪC'CÔSE**, see **SUCCULENT**.

**SŪC'CŪBOŪS**, having the base or lower edge of each leaf overlapping the apex of the preceding leaf, as in *Jungermania*. Compare **INCUBOUS**.

**SŪC'CŪLENT**, soft, and fleshy or juicy; pulpy.

**SŪCK'ĒR**, (1) a sprout or shoot, especially from the root or lower part of the stem (surculus); (2) sometimes applied to aerial roots or other holdfasts; (3) a haustorium.

**SŪCK'ĒR**, v. i., to put forth shoots from the lower part of the stem, as *Indian corn*.

**SŪDORĪF'IC**, causing perspiration.

**SŪFFRUTĒSÇENT**, slightly shrubby.

**SŪFFRUTĒX**, a plant with a woody base and herbaceous stems or branches. Applied mainly to perennials. See **UNDERSHRUB**.

**SŪFFRU'TICÔSE**, either suffrutescent or like an undershrub.

**SŪFFRUTIC'ŪLÔSE**, slightly fruticulose, as some lichens.

**SŪL'CĀTE**, having one or more large, straight, longitudinal grooves or channels, as the stem of parsnip. Compare **RIVOSE** and **STRIATE**.

**SŪL'CŪS** (pl. *SŪl'cī*), a longitudinal groove or furrow; sulcation. Compare **STRIA**.

**SŪLPHŪ'RĒOŪS**, sulphur-yellow—paler than *Lutens*. About the same as *Flavus*.

**SŪM'MĒR-SPÔRE**, any spore or gonidium which retains its vitality but a short time, and is intended for the propagation of the plant during the summer, as the uredospores of wheat-rust. Compare **RESTING-SPORE**.

**SUPER-** (or **SUPRA-**), a prefix from the Latin, meaning above in position or degree.

**SŪPĒRĀX'ILLĀRĪ**, situated above the axil, instead of within it, as the accessory buds sometimes seen in the butternut; supraaxillary; superfoliaceous; suprafoliaceous.

**SŪPĒRCRĒSÇENCE**, a parasite. (Rare.)

**SŪPĒRCRĒSÇENT**, growing above another part or body; especially, growing upon some other growing thing. (Rare.)

**SŪPĒRDĒCÔMPOUND'**, see **SUPRADECOMPOUND**.

**SŪPĒRFĒCŪNDĀ'TION**, the conjugation of more than two gametes. Compare **SUPERFECUNDATION**.

**SŪPĒRFĒTĀ'TION**, the fertilization of an ovary by two or more kinds of pollen, so that its seeds are not all alike. Compare **SUPERFECUNDATION**.

**SŪPĒRFÔLIĀ'ÇEOŪS**, see **SUPER-AXILLARY**.

**SŪPĒ'RĪOR**, said of a radicle when it points towards the

apex of the fruit (ascending); said of the ovary when the calyx is free from it; said of the calyx when adherent to the ovary and thus, with the other floral organs, situated upon its summit; applied to the upper side of a lateral flower, the side next the axis: the vexillum, for example, is the *superior* petal of a papilionaceous corolla.

**SŪPĒRNĀ'TANT**, floating on the surface.

**SŪPĒRNŪ'MĒRĀRŸ** BUDS, see ACCESSORY BUDS.

**SŪ'PĒRPĀRĀSITE**, a parasite of a parasite; hyperparasite.

**SŪ'PĒR-PLĀNT**, a plant which grows upon another plant, either as an epiphyte or a parasite.

**SŪPĒRPŌŠ'TION**, situation above some other organ; or, when referring to parts of the flower, the non-alteration of the members of contiguous circles, the corresponding parts being opposite instead of alternate; anteposition. See DIRECT and INVERTED SUPERPOSITION.

**SŪPĒRTŪBĒRĀ'TION**, an abnormal production of secondary tubers directly upon those produced in the ordinary manner.

**SŪPĒRVŌLŪTE'**, plaited and the plaits convolute, as the corolla of morning-glory.

**SŪPĪNE'**, lying flat, with face upward; dorsicumbent—opposed to Prone. Compare RESUPINATE.

**SŪPPŌRTĪNG PLĀNT**, a plant upon or within which another grows, either as a parasite or an epiphyte. See Host.

**SŪPPRĒS'ION**, the entire non-

development of a part; complete abortion; obliteration.

**SUPRA-**, see SUPER-.

**SŪPRĀĀX'ILLĀRŸ**, see SUPER-AXILLARY.

**SŪPRĀDĒCŌM'POUND**, three or more times compounded, or very much subdivided in any manner. A pinnate leaf, like that of walnut, is *compound*; a bipinnate leaf, like that of honey locust, is *decompound*; a tripinnate leaf, as in many acacias, is *supradecompound*.

**SŪPRĀFŌLIĀ'CEOUS**, see SUPER-AXILLARY.

**SŪPRĒME'**, situated at the highest point.

**SŪRCŪLĪĠ'ĒROŪS**, see SURCULOSE.

**SŪR'CŪLŌSE**, having suckers (surculi).

**SŪR CŪLŪS** (pl. SŪr'cālī), a sprout or shoot from the ground or base of the stem; sucker.

**SŪRCŪR'RENT**, having winged expansions from the base of the leaf prolonged up the stem. Compare DECURRENT.

**SŪSPĒND'ED**, said of seeds or ovules which are attached to the top or sides of the ovary and hang downward; pendulous; inverted. Compare ERECT and ASCENDING.

**SŪSPĒN'SOR**, (1) a single or multiple row of cells which is the first development of the fertilized oosphere in phenogams, and at the extremity of which the embryo is developed: it appears upon the embryo as a continuation of the radicle; proembryo; (2) the cell which supports the conjugating cell in Mucorini.

**SŪ'TŪRE**, a line of junction or dehiscence.

**SWARM**, a number of spores or unicellular individuals of common origin which remain near together without being united in any way.

**SWARM-CELL**, see Zoöspore.

**SWARM'ING**, moving about by means of cilia—said of zoöspores. Chiefly used when many are together. See SWIMMING.

**SWARM-SPÖRE**, see Zoöspore.

**SWIM'MING**, moving unattached within a liquid in any definite manner. Compare NATANT. The swimming of zoöspores when massed, however, is termed Swarming.

**SWÖRD'-SHÄPED**, see ENSIFORM.

**SÝCHNÖCÄR'POŮS**, see POLYCARPIC.

**SÝCÖ'NÏŮM**, see SYCONUS.

**SÝCÖ'NŮS**, the fruit (hypanthium) of the fig, consisting of an expanded fleshy receptacle enclosing the flowers.

**SÝL'VÄ** (pl. SÝl'væ), the trees of a country or region, or a work describing them.

**SÝL'VAN**, pertaining to woods.

**SÝLVĚS TRĪNE**, growing in woods.

**SÝMBIÖ'SIS**, the coexistence in more or less mutual interdependence of two different organisms, as the fungus and alga which constitute a lichen; mutualism; mutual parasitism; commensalism; consortism. With some authors Commensalism implies an association less necessary or mutually helpful than Symbiosis.

**SÝMMĚT'RĪCAL**, (1) having sepals, petals, and stamens of the same number, or multiples of one another; (2) divisible in one or more directions into halves, which are similar to,

or the reflections of, each other. See MONOSYMMETRICAL and POLYSYMMETRICAL.

**SÝMPĚT'ALOŮS**, see GAMOPETALOUS. Also formerly used for a partial union of the petals with monadelphous stamens, as in Malvaceæ.

**SÝMPHYÄN'THĚROŮS**, see SYNANTHEROUS.

**SÝMPHYCÄR'POŮS**, having the fruits confluent, as the disks of the apothecia in certain lichens.

**SÝMPHYL'LOŮS**, see GAMOPHYLOUS.

**SÝMPHYÖGĚNĚT'IC**, formed of parts which have become grown together or united.

**SÝMPHYÖSTĚM'ÖNOŮS**, monadelphous, synantherous, or with the stamens united in any other manner; symphy-stemonous.

**SÝM'PHÝSIS**, a union of parts usually distinct; cohesion or adhesion.

**SÝMPHYSTĚM'ÖNOŮS**, see SYMPHYSTEMONOUS.

**SÝM'PÖDE**, see SYMPODIUM.

**SÝMPÖ'DĪAL DĪCHÖT'ÖMÝ**, where one branch of each successive bifurcation continues to develop and the other remains subordinate. See SCORPIOID and BOSTRYCHOID DICHOTOMY.

**SÝMPÖ'DĪŮM**, a stem which consists of a series of secondary stems or axes which have arisen as branches one from another, as in the tomato; pseudaxis; false axis.

**SÝNÄC'MÝ**, having the stamens and pistils ripen at the same time, neither protandrous nor protogynous; synanthesis; opposed to Heteracmy.

**SŸNĀN'GĪŮM**, the peculiar boat-shaped sorus of certain ferns of the order Marattiaceæ.

**SŸNĀN'THĒROŮS**, having the stamens united by their anthers, as in Compositæ; symphyantherous; syngenesious.

**SŸNĀNTHĒ'SĪS**, see SYNACMY.

**SŸNĀN'THOŮS**, (1) having the flowers expand at the same time as the leaves. Compare PROTERANTHOUS and HYSTERANTHOUS. (2) Exhibiting synanthly.

**SŸNĀN'THŸ**, the abnormal coalescence of two or more flowers.

**SŸN'CĀRP**, see AGGREGATE FRUIT.

**SŸNCĀR'PĪŮM**, see AGGREGATE FRUIT.

**SŸNCĀR'POŮS**, formed of distinct aggregated carpels.

**SŸNCŌTŸLĒD'ŌNOŮS**, having coherent cotyledons.

**SŸNCŸ'TĪŮM**, a collection of nuclei without cell-walls.

**SŸNĒ'DRAL**, growing upon the angle of a stem.

**SŸNĒ'MĀ**, that part of the column in orchids which represents the united filaments of the stamens.

**SŸNĒR'ĠĪDĒ** (sing. *SŸnĒr'Ġidā*), two cells (or nuclei) in the upper end of the embryo-sac, which together with the oö-sphere form the egg-apparatus.

**SŸNĒRĠŸ**, the simultaneous action of several organs.

**SŸNGĒNĒ'SIOŮS**, see SYNANTHEROUS.

**SŸNŌC'REĀTE**, said of stipules when united around the stem so as to form an ocrea or sheath.

**SŸNĒ'CIOŮS**, (1) having male and female flowers in the same head, as in some Compositæ; (2) having antheridia and ar-

chegonia in the same receptacle in mosses.

**SŸN'ŌNŸM**, a superseded plant-name.

**SŸNŌPH'ŸTŸ**, the cohesion of two or more embryos in a seed. (M. C. Cooke.)

**SŸNŌP'SĪS** (pl. *SŸnŏp'sēs*), a condensed description of a genus, species, or other group.

**SŸNPĒT'ALOŮS**, see GAMOPETALOUS.

**SŸNSEP'ALOŮS**, see GAMOSEPETALOUS.

**SŸNTĀG'MĀ** (pl. *SŸntāg'mātā*), a name applied by Pfeffer to all bodies composed of tagmata, which see.

**SŸ'PHŌN**, see SIPHON.

**SŸS'TĒM**, (1) an arrangement of natural objects according to some rule; (2) the sum of the parts of an organism which are of the same morphological nature or perform a similar function, as the fibrovascular or intercellular system.

**SŸS'TĒM, ĀRTĪFĪCIAL**, see ARTIFICIAL SYSTEM.

**SŸSTĒMĀT'ĪC BŌT'ĀNŸ**, the part of botany which treats of the description, naming, and classification of plants. See VEGETABLE TAXONOMY and PHYTOGRAPHY.

**SŸS'TĒM, NĀT'ŪRAL**, see NATURAL SYSTEM.

**SŸS TRŌPHĒ**, the massing of the chlorophyll bodies of a cell under intense light. Compare APOSTROPHE and EPISTROPHE.

**TĀBĒS'ĠENT**, wasting or shrivelling.

**TĀB'ŪLAR**, flattened horizontally.

**TĀG'MĀ** (pl. *Tāg'mātā*), a name given by Pfeffer to any aggre-

gate of molecules, including pleon, micella, and micellar aggregate. See these terms.

**TĀIL**, any long, flexible, terminal appendage, as the persistent style on the seed of Clematis.

**TĀIL'-POINTĒD**, tipped with a long, flexible acumination.

**TĀN'GLE**, see SKEIN.

**TĀNK'ARD-SHĀPED**, thickened, about twice as long as broad, gradually enlarged downward, then suddenly contracted or terminated, as the root of some varieties of the turnip and radish. Compare STUMP-ROOTED.

**TĀ'PĒR POINTĒD**, see ACUMINATE.

**TĀPĒ'TŪM**, (1) a layer of cells, just outside the archesporium, lining the cavity of an anther or a sporangium. It usually becomes disorganized and absorbed before the liberation of the spores or pollen-grains; (2) a similar layer of cells surrounding the embryo-sac.

**TĀP'-ROOT**, a main root which runs directly downward.

**TĀRTĀ'RĒOŪS**, having the surface rough and crumbly, as that of many lichens. (Obs.)

**TĀS'SEL**, the popular name for the staminate inflorescence or terminal compound spike of Indian corn. Sometimes called Spindle.

**TĀW'NŶ**, see FULVOUS.

**TĀXŌL'ŌĠŶ**, see TAXONOMY.

**TĀXŌN'ŌMŶ**, see VEGETABLE TAXONOMY.

**TĒAR**, a drop of gum or resin as it has issued from the plant.

**TĒAR'-SHĀPED**, of the shape of an apple-seed—the same as pear-shaped except that the sides are not contracted.

**TĒETH**, see TOOTH.

**TĒĠ'MĒN**, the innermost seed-coat; endopleura. Called Secundine in the ovule.

**TĒĠMĒN'TŪM** (pl. TĒĠmĒn'tà), an old term for Bud-scale.

**TĒĠ'ŪMENT**, see INTEGUMENT.

**TĒ'LĀ CŌNTĒX'TĀ**, see FELTED TISSUE.

**TĒLEŪ'TŌSPŌRE**, a thick-walled, usually compound, gonidium produced by the Uredineæ or rust-fungi late in the season and which serves to reproduce the fungus the next year; brand-spore; pseudospore.

**TĒN'DRĪL**, a slender appendage which serves for support by coiling around some other object. It may be morphologically a leaf, leaflet, stipule, or stem.

**TĒN'TĀCLE**, one of the sensitive glandular hairs on the leaf of Drosera.

**TĒNŪIFŌ'LĪOŪS**, having thin, narrow leaves.

**TĒP'AL**, one of the parts of a perianth, either sepal or petal. (Rare.)

**TĒRĀTŌL'ŌĠŶ**, the study of abnormal structures; morphology as applied to monstrous growths. Not applied to malformations due to disease.

**TĒL'ĈINE**, a third coat to the ovule, counting from the outside—not a constant and definite structure.

**TĒRĒTE'**, cylindrical, or somewhat tapering.

**TĒĠĠM'ĪNAL**, see TERGEMINATE.

**TĒĠĠM'ĪNĀTE**, having three pairs of leaflets or other organs attached, by secondary petioles or otherwise, to the apex of a common support. Compare

- TERNATE**, **TERNATE-PINNATE**, and **TRIUGATE**.
- TĚRGĪF'ĚROŮS** (obs.), see **DORSIFEROUS**.
- TĚRGĪSPĚR MOŮS**, bearing reproductive bodies upon the back, as the leaves of ferns. (Obs.)
- TĚR'GŮM** (obs.), see **DORSUM**.
- TĚR'MĪNAL**, attached to or pertaining to the extremity or apex.
- TĚR'MĪNAL BŮD**, a bud at the extremity of a branch or stem. Compare **LATERAL BUD**.
- TĚR'NÁRŤ**, consisting of three. Compare **TERNATE**.
- TĚR'NĀTE**, growing in threes, as the leaflets in clover.
- TĚR'NĀTELŤ TRĪFŮ'LĪŮLĀTE**, having three leaflets attached at one point, as in clover. Compare **TRIFOLIOLATE**.
- TĚR'NĀTE - PĪN'NĀTE**, having three secondary petioles, each bearing pinnate leaflets, attached to the apex of a common petiole. If each secondary petiole bears but a single pair of leaflets the leaf is called **Tergeminate**.
- TĚRPĪN'NĀTE**, see **TRIPINNATE**.
- TĚRRĚS'TRIAL**, growing on land, not aquatic; growing on the ground, not on trees.
- TĚS'SĚLLĀTĚD**, having square spots, arranged like those on a chess-board.
- TĚSTĀ**, the outer seed-coat, called primine, in the ovule; spermoderm.
- TĚSTĀ'ĚOŮS**, brownish yellow, like unglazed earthen-ware.
- TĚSTĪC'ŮLĀTE**, oval and solid, like the tuberous roots of certain orchids.
- TĚST'ŮLE** (obs.), see **FRUSTULE**.
- TETRA-**, in Greek compounds, four.
- TĚTRĀCĀM'ĀROŮS** (obs.), about the same as **Tetracoccus**. See **CAMARA**.
- TĚTRĀCĀR'PĚLLĀRŤ**, of four carpels.
- TĚTRĀCHĚNĪŮM**, a fruit consisting of four achenium-like carpels, as in *Labiatae*.
- TĚTRĀCHŮT'ŌMOŮS**, dividing at the end into four branches.
- TĚTRĀCŮC'COŮS**, of four cocci.
- TĚTRĀČŤC'LĪC**, composed of four whorls, as a flower having calyx, corolla, and stamens each of one whorl and a single (simple or compound) pistil.
- TĚT'RĀD**, a group of four pollen-grains.
- TĚTRĀDŤN'ĀMOŮS**, having six stamens, four of which are longer than the other two. Compare **DIDYNAMOUS**.
- TĚTRĀFŮ'LĪOŮS**, having bijugate leaves, i.e., having leaves with two pairs of leaflets.
- TĚTRĀG'ŌNAL**, prismatic and quadrangular; four-angled; tetragonous. Compare **TETRAQUETROUS**.
- TĚTRĀGŌNĪD'IŮM** (pl. *TĚtrāgōnid'ĭā*), see **TETRASPORE**.
- TĚTRĀG'ŌNOŮS**, see **TETRAGONAL**.
- TĚTRĀG'ŤNOŮS**, having four pistils or styles.
- TĚTRĀM'ĚROŮS**, having four parts or the parts in fours. Applied mainly to flowers which have four members in each set or whorl of organs. Compare **DIMEROUS**, **TRIMEROUS**, etc.
- TĚTRĀN'DROŮS**, having four stamens.

**TĚTRÁPĚT'ALOŮS**, having four petals.

**TĚTRĀPH'ÝLLOŮS**, four-leaved. Often used for Tetrasepalous.

**TĚTRĀQ'UĚTROŮS**, having four salient angles. Compare TETRAGONAL.

**TĚTRĀRĚCH**, a term applied to a fibrovascular cylinder which represents four fibrovascular bundles.

**TĚTRÁSĚP'ALOŮS**, of four sepals. See TETRAPHYLLOUS.

**TĚTRÁSPĚR'MOŮS**, four-seeded.

**TĚTRÁSPĚRĀN'GIŮM**, a sporangium (unicellular) containing tetraspores.

**TĚT'RÁSPĚRE**, a gonidium or asexually produced spore in Florideæ. So called from being often produced four together in a mother-cell; tetragonidium.

**TĚTRÁS'TĪCHOŮS**, in four vertical rows upon a stem.

**THĀLĀMĪFLŌ'RAL**, having the stamens inserted upon the receptacle. Compare COROLLIFLORAL and CALYCIFLORAL.

**THĀLĀMĪFLŌ'ROŮS**, see THALAMIFLORAL.

**THĀL'ĀMŮS** (pl. Thāl'āmī), the receptacle of a flower.

**THĀLĀS'SŌPHŮTE**, a sea-alga. (Rare.)

**THĀL'LŌGĚN**, see THALLOPHYTE.

**THĀL'LOĪD**, having the form or nature of a thallus. Compare FOLIOSE and FRONDOSE.

**THĀLLO'DAL**, see THALLOID.

**THĀL'LŌME**, see THALLUS. Compare CAULOME.

**THĀL'LŌPHŮTE**, a plant whose vegetative body is a thallus, as a lichen, fungus, or alga; cellular cryptogam; thallogen. Compare CORMOPHYTE.

**THĀL'LŮS** (pl. Thāl'li), a vegeta-

tive body without true leaf or stem, as that of most cryptogams; thallome.

**THĀL'LŮS PLĀCŌ'DĚS** (obs.), see FOLIACEOUS THALLUS.

**THĀL'LŮS THĀMNŌ'DĚS** (obs.), see FRUTICOSE THALLUS.

**THĚ'CĀ** (pl. Thē'cæ), a sporangium or anther-cell. (Rare.) Formerly in general use for ascus, and still used by some writers for the sporangium or capsule of mosses.

**THĚ'CĀPHŌRE** (obs.), see GYNOPHORE.

**THĚ'CĀSPŌRE**, see ASCOSPORE.

**THĚČĪF'ĚROŮS**, bearing asci or other thecæ; thecigerous. (Rare.)

**THĚČĪF'ĚROŮS**, see THECIFEROUS.

**THĚRMŌT'RŌPĪSM**, the property or phenomenon of movement under the influence of heat or cold. Curvature toward a source of heat is called *positive thermotropism*; curvature in the opposite direction, *negative thermotropism*.

**THĪCK'ENĪNG LĀY'ĚR**, an apparent layer of cellulose deposited upon the *inner* surface of a cell-wall. It appears as a layer only because of its power of absorbing water in a different degree from the remainder of the cell-wall.

**THĪCK'ENĪNG RĪNG**, the cambium-ring, or any other ring or layer of thickening or meristematic tissue.

**THŌRN**, a degenerated, sharp-pointed branch, either simple, as in the thorn-apple, or branched, as in the honeylocust. Sometimes applied to other large, sharp, rigid processes. Compare SPINE and PRICKLE.

**THRĚAD-SHĀPED**, see FILIFORM.

**THREE-ĀNGLED**, see TRIGONOUS.

**THREE-CLĚFT**, see TRIFID.

**THREE-LĚAVED**, see TRIFOLIATE.

**THREE-LĚBED**, having three lobes or segments.

**THREE-NĚRVED**, having three principal veins proceeding from the base of the leaf in monocotyledons. Applied mainly in the floral envelopes of grasses; trinervate; triple-nerved.

**THREE-PĀRTĚD**, divided into three parts, or having the parts in threes: a three-parted leaf has three lobes or leaflets; a three-parted flower has three petals.

**THREE-RĀNKED**, in three vertical rows upon a stem; trifarious; tristichous.

**THREE-VĀLVED**, having three valves or deliscent portions of a pericarp; trivalvular.

**THRĚAT**, see FAUX.

**THRŮM**, an old term for stamen.

**THRŮM-EYED**, a florist's term for flowers having long, conspicuous stamens and a short style. Compare PIN-EYED.

**THŲLL**, see TYLOSIS.

**THŲLĚSE**, see TYLOSIS.

**THŲRSE**, a compact panicle, like that of the lilac and grape.

**THŲR'SĚID**, thyse-like.

**THŲR'SŲS** (pl. ThŲr'sī), see THYRSE.

**TIGE** [pro. tēzh], stem. (Rare.)

**TĲĚLLE**, see TIGELLUM.

**TĲĚL'LŮM** (pl. TĲĚl'lā), see CAULICLE.

**TĲ'LĚR**, n., a sucker or branch

from the base of the stem. (Obs.)

**TĲ'LĚR**, v. i., to put forth new shoots from the root or around the base of the original stalk, as wheat; stool. Applied mainly to the smaller cultivated plants of the grass family. Compare SUCKER.

**TĲ'LĚW** (obs.), see TILLER.

**TĲM'BĚR-LĲNE**, the upper limit of arborescent vegetation upon high mountains, as determined by cold.

**TĲNCTĚRĲĚŲS**, capable of serving as a dye.

**TĲ'SŲĚ**, a general term for all the material of which plants and animals are formed; particularly, a collection of cells of similar character, as vegetable tissue, epidermal tissue, fibrovascular tissue.

**TĲ'SŲĚ-CĚRD**, see CENTRAL CORD.

**TĲ'MĚNTĚSE**, covered with matted woolly hairs.

**TĲMĚN'TĚŲS**, see TOMENTOSE.

**TĲMĚN'TŲLĚSE**, slightly tomentose.

**TĲMĚN'TŲM**, matted woolly hairs.

**TĲMĲP'ĀRĚŲS**, producing spores by division. (M. C. Cooke.) See FISSIPAROUS.

**TĚNGUE**, see LIGULE.

**TĚNGUE-SHĀPED**, long, thickened, nearly flat, and rounded at the end; linguulate; linguiform; linguaeform.

**TĚN'ĚPLĀST**, a term sometimes applied to a vacuole-wall. See VACUOLE.

**TĚOTH**, any small, pointed, marginal lobe, especially of a leaf.

**TĚOTHĚD**, see DENTATE.

**TĚOTH'LĚT**, a small or secondary tooth; denticulation.

**TŌOTH'LĒTĒD**, see DENTICULATE.

**TŌP'ICAL**, local; confined to a limited area.

**TŌP'-SHAPED**, see TURBINATE.

**TŌRN**, with marginal incisions deep and irregular. (Rare.) Compare JAGGED, LACINIATE, and INCISED.

**TŌRŌSE'**, cylindrical, and swollen at intervals. See MONILIFORM.

**TŌR'SION**, the state of being twisted spirally.

**TŌR'TŪŌŪS**, bending or turning in various directions.

**TŌR'ŪLŌSE**, somewhat torose.

**TŌ'RŪS**, (1) the extremity of the stem, upon which the floral organs are situated, usually termed Receptacle; thalamus; (2) a thickened centre in the closing membrane of a bordered pit.

**TRĀBĚC'ŪLĀ** (pl. Trābēc'ūlā), one of the transverse processes upon the inner face of the teeth of the peristome in mosses; a projection from the wall across a cavity, as the bands of tissue crossing the sporangia of Isoetes or the cellular filaments across the space surrounding the fibrovascular bundles in Selaginella; any cross-bar, as one of the connecting threads in a reticulum.

**TRĀBĚC'ŪLAR**, having or pertaining to trabeculae; trabeculate.

**TRĀBĚC'ŪLAR VĚS'SĚL**, one whose cavity is crossed by ligneous threads or bands.

**TRĀBĚC'ŪLĀTE**, having trabeculae; trabecular.

**TRĀ'CHĒĀ** (pl. Trā'chēā), see SPIRAL VESSEL.

**TRĀ'CHĒĪD** (pl. Trā'chēids or Trāchē'idēs), a woody vessel

composed of a single cell. Applied mainly to those having bordered pits.

**TRĀIL'ING**, elongated, and prostrate upon the ground, but not rooting. The same as Running, except that the plant may be shorter, or may rise at first from a woody or otherwise self-supporting base. Compare CREEPING.

**TRĀJĚC'TILE** (obs.), see DISTRACTILE.

**TRĀ'MĀ**, the substance of the same character, as the pileus in the gills of agarics. It supports the subhymeneal layer.

**TRĀNSFŌRMĀ'TION**. This term is used in botany mainly in the same sense as Metamorphosis. A petal, for example, is called a transformed or metamorphosed leaf, not because the particular petal under consideration has ever been a foliage-leaf, but because it is a leaf in a special or unusual condition. The word Transformation is also used for the changes in a particular organ during its development or growth.

**TRĀNSMŪTĀ'TION**, see METABOLISM.

**TRĀNSPĪRĀ'TION**, the normal escape of fluids from within the plant; exhalation. It includes not only the escape of moisture, both in the form of vapor and, as occasionally occurs, in the liquid state, but also the gaseous products of respiration. The transpiration of moisture is sometimes, but unnecessarily, termed Perspiration.

**TRĀNSVĚRSE' CHŌ'RĪSĪS**, when two or more organs in place of one stand one above or within another; vertical chorisis.

Compare COLLATERAL CHORISIS.

**TRĀNSVĒRSE' GĒŌT'RŌPIŠM**, see DIAGEOTROPISM.

**TRĀNSVĒRSE' HĒLIŌT'RŌPIŠM**, see DIAHELIOTROPISM.

**TRĀPĒ'ZĪFŌRM**, unsymmetrically four-sided, like a trapezium; trapezoid.

**TRĀP'ĒZŌID**, see TRAPEZIFORM.

**TRĀP'ĒZŌID**, n., a body having the form of a trapezium. (Rare.)

**TREE**, a woody plant capable of growing in the given locality at least twenty feet in height, with a single self-supporting stem. If the top is unusually broad the height may be somewhat less. The standard is arbitrary and varies considerably according to circumstances. Compare **SIRUB**.

**TRĒM'ĒLLŌID**, gelatinous, like the Tremellineæ.

**TRI**-, three.

**TRIĀDĒL'PHŌŮS**, having the filaments in three sets.

**TRIĀN'DRIĀN**, see TRIANDROUS.

**TRIĀN'DROŮS**, having three stamens.

**TRIĀN'GŪLAR**, having three sides or angles;—applied either to flat bodies like leaves, or to columnar bodies like stems. Compare **TRIGONOUS**.

**TRIĀN'THOŮS**, three-flowered.

**TRIĀRĒH**, a fibrovascular cylinder which has three ligneous rays, and thus represents three fibrovascular bundles.

**TRĪBE**, a group of genera subordinate to an order or suborder. Similar groups are in some cases called families.

**TRĪCĀR'PĒLLĀR'Y**, having three

carpels in a flower or pistil; trigynous.

**TRĪCĀR'POŮS**, containing three ovaries or fruits.

**TRĪČĒPH'ĀLOŮS**, three-headed.

**TRĪCH'ŌBLĀST**, an internal hair, like those which project into the intercellular spaces of some water-lilies.

**TRĪCH'ŌGŸNE**, a slender prolongation of the carpogonium in Florideæ which receives upon its apex the antherozoids in fertilization.

**TRĪCHŌ'MĀ** (pl. *Trichō'mâtā*), a term sometimes applied to filaments of conferva and some other algæ, especially to the multicellular filaments in Nostochinæ.

**TRĪCH'ŌME**, a plant-hair of any kind.

**TRĪCH'ŌPHŌRE**, the cell or cells immediately supporting a trichogyne.

**TRĪCHŌSPŌRĀN'GIŪM**, a sporangium which is morphologically a hair. Formerly also applied to the plurilocular sporangia of Phæosporeæ.

**TRĪCHŌT'ŌMOŮS**, dividing at the end into three branches; three-forked; trifurcate.

**TRĪCŌC'COŮS**, of three cocci.

**TRĪ'CŌLŌR**, of three colors.

**TRĪCŌS TĀTE**, three-ribbed.

**TRĪCŪS'PĪD**, three-pointed; tricuspidate.

**TRĪCŪS'PĪDĀTE**, see **TRICUSPID**.

**TRĪDĒN'TĀTE**, three-toothed.

**TRĪĒN'NĪAL**, a plant which fruits the third year, then dies. Few plants, if any, are strictly of this character. Compare **BIENNIAL**.

**TRĪFĀ'RĪOŮS**, in three rows, or pointing in three directions; especially, in three vertical

rows upon a stem; three-ranked; tristichous. Compare **TRISERIAL** and **MULTIFARIOUS**.

**TRĪFĪD**, three-cleft; divided into three parts about half-way to the base.

**TRĪFLŌ'ROŪS**, three-flowered.

**TRĪFŌ'LIĀTE**, strictly, three-leaved, but often incorrectly applied to leaves which have three leaflets, as those of clover. Compare **TRIPHYLLOUS**.

**TRĪFŌ'LIŌLĀTE**, having three leaflets. Usually but incorrectly called Trifoliolate.

**TRĪFŪR'CĀTE**, see **TRICHOTOMOUS**.

**TRĪG'AMOŪS**, having staminate, pistillate, and perfect flowers in the same head in *Compositæ*, being one of the polygamous conditions.

**TRĪGĒM'INOŪS**, see **TERGEMINATE** and **TRIUGATE**.

**TRĪG'ONAL**, see **TRIGONOUS**.

**TRĪG'ONOŪS**, prismatic, and three-angled, as the stems of sedges; trigonal. Compare **TRIQUETROUS**.

**TRĪG'YNOŪS**, having three pistils or styles; tricarpeal.

**TRĪJ'ŪGĀTE**, having three pairs of leaflets arranged in any manner upon a leaf, especially along a common petiole; trijugous. Compare **TERGEMINATE**.

**TRĪJ'ŪGOŪS**, see **TRIUGATE**.

**TRĪLĀT'ĒRAL**, three-sided. See **TRIGONOUS**.

**TRĪLŌ'BĀTE**, three-lobed.

**TRĪLŌC'ŪLAR**, three-celled: applied to pericarps.

**TRĪMĒROŪS**, having the parts in threes: applied to flowers having calyx, petals, and stamens each three or a multiple

of three. Sometimes written 3-merous.

**TRĪMŌR'PHĪC**, see **TRIMORPHOUS**.

**TRĪMŌR'PHOŪS**, having three kinds of flowers in the same species, differing in the relative lengths of their stamens and pistils; heterogonous trimorphous. Compare **DIMORPHOUS**. See **HETEROGONOUS**.

**TRĪNĒRVĀTE**, see **THREENERVED**.

**TRĪNĒERVED**, see **THREENERVED**.

**TRĪNŌD'AL**, having three nodes.

**TRĪĒ'CIOŪS**, having a polygamous condition in which there are staminate, pistillate, and perfect flowers, each on different sets of plants.

**TRĪŌI COŪS**, see **TRICECIOUS**.

**TRĪŌ'VŪLĀTE**, containing three ovules.

**TRĪPĀRTĒD**, see **TRIPARTITE**. Compare **THREE-PARTED**.

**TRĪPĀRTĪTE**, divided into three parts nearly to the base; three-parted.

**TRĪPĒT'ALOŪS**, of three petals.

**TRĪPH'YLOŪS**, having three leaves or leaf-like bodies in a whorl, or otherwise associated; —applied especially to a three-leaved calyx or perianth.

**TRĪPĪN'NĀTE**, thrice pinnate, as a bipinnate leaf the leaflets of which (or some of them) are themselves pinnate; terpinnate.

**TRĪPĪNNĀT'IFĪD**, thrice pinnatifid; thrice pinnately cleft; —said of a pinnatifid leaf when its segments are pinnatifid and the subdivisions of these are also pinnatifid.

**TRĪPĪNNĀT'ISĒCT**, the same as **TRIPINNATIFID**, with the divi-

- sions extending in each case to the base or midrib.
- TRĪP LE-NĒRVED**, see **THREE-NERVED**.
- TRĪP'LE-RĪBBED**, having three prominent ribs or veins.
- TRĪP'LĪCĀTE - ĠĒM'ĪNĀTE**, see **TERGEMINATE**.
- TRĪP'LĪCĀTE - PĪN'NĀTE**, see **TRIPINNATE**.
- TRĪP'LĪCĀTE-TĒR'NĀTE**, see **TRITERNATE**.
- TRĪP'LĪNĒRVED**, see **THREE-NERVED**.
- TRĪP TĒROŪS**, three-winged.
- TRĪQUĒ'TROŪS**, prismatic, with three acute or salient angles. Compare **TRIGONOUS**.
- TRĪSĒCT'ĒD**, divided into three parts or segments by incisions extending to the midrib or base: said of leaves.
- TRĪSĒP'ALOŪS**, of three sepals; triphyllous.
- TRĪSĒP TĀTE**, having three septa.
- TRĪSĒ'RĪĀL**, in three rows; tri-seriate. See **THREE-RANKED**.
- TRĪSĒ'RĪĀTE**, see **TRISERIAL**.
- TRĪSPĒR'MOŪS**, three-seeded.
- TRĪS'TĪCHOŪS**, see **THREE-RANKED**.
- TRĪSTĪGMĀT'ĪC**, having three stigmas.
- TRĪS'TĪS**, of some dull or dingy color. (Rare.)
- TRĪSTŪ'LOŪS**, having three styles.
- TRĪSŪL'CĀTE**, three-grooved.
- TRĪTĒR'NĀTE**, thrice ternate, as a compound leaf whose primary petiole divides into three secondary petioles, each of which again divides into three, each division bearing three leaflets.
- TRĪVĀL'VŪLAR**, see **THREE-VALVED**.
- TRĪV'ĪĀL NĀME**, see **SPECIFIC NAME**.
- TRŌCH'LĒAR**, short-cylindrical, with the sides contracted; pulley-shaped; trochleariform.
- TRŌCHLĒĀR'ĪFŌRM**, see **TROCHLEAR**.
- TRŌPH'ŌPLĀST**, a term including all essential granules in protoplasm.
- TRŌPH'ŌSPĒRM**, see **PLACENTA**.
- TRŪMP'ĒT - SHĀPED**, tubular, long, very gradually expanded toward the summit, and having a comparatively small and usually but slightly spreading limb or border. Compare **HYPOCRATERIFORM**.
- TRŪN'CĀTE**, terminating abruptly, as though cut off or flattened at the end; extremely obtuse. Compare **PREMORSE** and **SUCCISE**.
- TRŪNK**, the stem of a tree.
- TRŪSS**, a popular name for a rather compact, moderate-sized, terminal flower-cluster of any kind, as an umbel, corymb, spike, or raceme.
- TRŪMĀ**, a drupaceous fruit, like the walnut or hickory-nut. It is distinguished from a drupe by being derived from an inferior instead of a superior ovary.
- TŪBE**, the united portion of a gamopetalous corolla, gamosepalous calyx, or monadelphous andræcium; any elongated hollow part or organ.
- TŪBE' - FŌRM**, see **TUBE-SHAPED**.
- TŪBĒR**, a short, thickened portion of a subterranean branch.
- TŪBĒRCLE**, any small, wart-like excrescence, as those upon the rootlets of various Leguminosæ.

**TÛBËR'CÛLAR**, in the form of a tubercle or having tubercles.

**TÛBËR'CÛLÂTE**, having tubercles; tuberculose; tubercular.

**TÛBËR'CÛLÂTËD**, see TUBERCULATE.

**TÛ'BËRCÛLE**, a tuberous root, as in the dahlia. (Obs.)

**TÛBËR'CÛLÔSE**, consisting of tubercles; bearing many tubercles; tuberculate.

**TÛBËR'CÛLOÛS**, see TUBERCULOSE.

**TÛBËRÎF'ËROÛS**, bearing tubers.

**TÛ'BËRÔSE**, see TUBEROUS.

**TÛ'BËROÛS**, bearing tubers, as a tuberous plant; resembling a tuber, as tuberous roots.

**TÛBE'-SHÂPED**, tubular and rather long and wide; about the same as Trumpet-shaped, but may be shorter; tubiform; tubæform; tubiform; tubate. See TUBULAR.

**TÛ'BÛLAR**, in the form of a tube or pipe; fistular; tubulose. Applied in Compositæ to disk-florets, in distinction from the ligulate florets of the ray; also to any gamopetalous or gamosepalous flower, especially if the tube is rather long and wide. See TUBE-SHAPED.

**TÛ'BÛLAR FLÔ'RËT**, a disk-flower in Compositæ, when, as is usual, it differs from those of the ray in having a small and regular corolla; disk-floret; disk-flower. Compare LIGULATE FLORET.

**TÛ'BÛLÎ**, pl., see TUBULUS.

**TÛBÛLÎFLÔ ROÛS**, applied to a head of flowers in Compositæ which bears tubular florets only.

**TÛ'BÛLÔSE**, see TUBULAR.

**TÛ'BÛLÛS** (pl. Tã'bãlî), (1) one

of the cells surrounding the central siphon in Chara; (2) applied by some to the neck in Pyrenomyces.

**TÛFT'ËD**, see CESPITOSE.

**TÛMËS'CENT**, slightly tumid.

**TÛ'MID**, somewhat turgid or inflated.

**TÛ'NIC**, any integument or investing layer, as a seed-coat, or a peridium; especially, a membranous scale of a bulb, or a dry sheath surrounding one of the lower internodes in certain grasses.

**TÛ'NICÂTE**, covered with a thin, separable coat or tunic.

**TÛ'NICÂTËD**, see TUNICATE.

**TÛ'NICÂTËD BÛLB**, a bulb with broad, thin scales which form successive overlapping coats, as in the onion; coated bulb. Compare SCALY BULB.

**TÛR'BINÂTE**, top-shaped; inversely conical, as the pericarp of water-lilies.

**TÛRGËS'CENT**, swelling; slightly turgid.

**TÛR'GID**, (1) thickened as if swollen, like a tuber; (2) distended with liquid, but not with air. Compare INFLATED and TUMID.

**TÛ'RÎÔ** (pl. Turiô'nēs), see TURION.

**TÛ'RÎÔN**, a leafless or scaly shoot from the ground, as a young stem of asparagus; turio.

**TÛRÎÔNÎF'ËROÛS**, bearing turions.

**TÛRN'ING ÎN**, commencing to head: said of cabbages, etc.

**TÛR'NÎP-SHÂPED**, see NAPIFORM.

**TÛR'PËNTÎNE VËS'SËLS**, see RESIN-PASSAGES.

**TÛS'SOCK**, a tuft growing from the ground, as in many grasses.

**TWĪN**, see GEMINATE.

**TWĪN'ĪNG**, ascending by coiling the stem in a spiral manner around a support; voluble. Compare CLIMBING.

**TWIST'ĒD**, see CONTORTED.

**TWŌ'-CLĒFT**, see BIFID.

**TWŌ'-FŌRKED**, see DICHOTOMOUS.

**TWŌ'-LĪPPED**, see LABIATE.

**TWŌ'-PĀRTĒD**, see BIPARTITE.

**TWŌ'-RĀNKED**, situated in two vertical rows on opposite sides of the stem, as the leaves of grasses; distichous.

**TWŌ'-TŌOTHED**, see BIDENTATE.

**TŸ'LŌSE**, see TYLOSIS.

**TŸLŌ'SĪS** (pl. *TŸlŏ'sēs*), a protrusion from an adjoining cell into the cavity of a vessel, sometimes exhibiting repeated cell-division within the vessel. Sometimes written Thylose and Thyll. A vessel which contains these protrusions is said to exhibit tylosis.

**TŸM'PĀNŪM**, a membrane closing the mouth of the capsule in some mosses.

**TŸPE**, a perfect specimen or individual, exemplifying the essential characters of the species or other group to which it belongs.

**TŸPE-SPĒÇ'IMEN**, the original specimen from which a botanical description was written and upon which the name of the plant or group is based: the actual individual which serves as the type of a species or other group.

**TŸP'ĪCAL**, representing the type or plan.

**ŪLĪĠ'ĪNŌSE**, see PALUSTRINE.

**ŪLĪĠ'ĪNOŪS**, see PALUSTRINE.

**ŪM'BĒL**, the inflorescence of the order Umbelliferae, or any flower-cluster in which several primary rays or pedicels arise from the apex of the stem or peduncle. A typical umbel is somewhat flat-topped, and has the rays spreading like the stays of an umbrella. An umbel is *simple* when each ray or pedicel bears but a single flower; it is *compound* when each bears several flowers or secondary rays.

**ŪM'BĒL, ÇŸMŌSE**, see CYMOSE UMBEL.

**ŪM'BĒLLĀTE**, bearing umbels; pertaining to umbels; umbel-like.

**ŪM'BĒLLĀTE ÇŸME**, see CYMOSE UMBEL.

**ŪM'BĒLLĒT**, a small umbel or a partial umbel; umbellule.

**ŪMBĒLLĪF'ĒROŪS**, producing umbels.

**ŪMBĒL'LĪFŌRM**, in the shape of an umbel.

**ŪMBĒL'LŪLĀTE**, in the form of a small or a partial umbel. Formerly used for Subumbellate, which see.

**ŪM'BĒLLŪLE**, see UMBELLET.

**ŪMBĒLLŪLĪF'ĒROŪS**, bearing small umbels.

**ŪMBĪL'ĪCAL CŌRD**, see FUNICULUS.

**ŪMBĪL'ĪCĀTE**, having an umbilicus, or central depression like the navel.

**ŪMBĪL'ĪCŪS**, an old term for Hilum; any depression resembling the navel.

**ŪM'BŌ**, a central elevation, like the boss of an ancient buckler.

**ŪM'BŌNĀTE**, having a low, rounded central projection, as the cap of many mushrooms.

**UMBŎN'ŪLĀTE**, slightly umbonate; subumbonate; bearing a small, or slightly elevated, umbo.

**ŪMBRĀC'ŪLĪFŎRM**, umbrella-shaped.

**ŪMBRĀC'ŪLŪM**, the fruit-cap of Marchantia, or any such umbrella-shaped appendage.

**ŪNĀRMED'**, destitute of thorns, spines, or prickles.

**ŪN'CĀTE**, see **UNCINATE**.

**ŪN'ĈĪFŎRM**, hook-shaped.

**ŪN'ĈINĀTE**, hooked at the end, or furnished with hooked appendages; uncate; unciform. Compare **FALCATE**.

**ŪN'C'TŪŎŪS**, having a greasy appearance.

**ŪN'DĀTE**, see **UNDULATE**.

**ŪN'DĀTĒD**, see **UNDULATE**.

**ŪN'DĒRSHRŪB**, (1) a low shrub, less than three feet high, as the wintergreen; (2) a plant with woody base and upper portion herbaceous and yearly dying back, as the garden sage (*suffrutex*). The term is now generally used in the first sense only.

**ŪN'DŪLĀTE**, applied to leaves which have the surface near the margin alternately concave and convex; undate. Compare **CRISP**, **SINUATE**, **WAVED**, and **RUFFLED**.

**ŪNĒ'QUAL**, (1) unsymmetrical, as the leaves of begonia; (2) differing in length—applied to stamens, etc.

**ŪNĒ'QUALLŲ PĪN'NĀTE**, see **IMPARIPINNATE**.

**ŪNĒ'QUAL-SĪDĒD**, unsymmetrical.

**ŪNGUĪC'ŪLAR**, see **UNGUICULATE**.

**ŪNGUĪC'ŪLĀTE**, (1) furnished with a "claw" or unguis, as

the petals of pinks; (2) ending in a curved point resembling a claw.

**ŪN'GUĪFŎRM**, like the claw of a petal.

**ŪN'GUĪS**, see **CLAW**.

**ŪN'GŪLĀTE**, hoof-shaped.

**UNI-**, a Latin prefix, one.

**ŪNĪĀXĪAL**, having an unbranched stem.

**ŪNĪCĀP'SŪLAR**, having the carpels of a flower all united into one capsule.

**ŪNĪCĀR'INĀTĒD**, one-keeled.

**ŪNĪĈĒL'LŪLAR**, one-celled.

**ŪNĪCŎL'OR**, of the same color throughout; whole-colored; unicolorous; isochrous. Compare **DISCOLOR** and **CONCOLOR**.

**ŪNĪCŎL'OROŪS**, see **UNICOLOR**.

**ŪNĪFĀ'RĪŎŪS**, one-ranked. Compare **SECUND**.

**ŪNĪFLŎ ROŪS**, one-flowered.

**ŪNĪFŎ'LIĀTE**, one-leaved. Used also for **Unifoliolate**, which see.

**ŪNĪFŎ'LIŎLĀTE**, of one leaflet, as the theoretically compound leaf of the orange and lemon.

**ŪNĪJ'ŪGĀTE**, having a single pair of leaflets or other organs.

**ŪNĪLĀ'BIĀTE**, one-lipped;—sometimes applied also to a regular gamopetalous corolla which is open on one side, as the ligulate florets in *Compositæ*. See **LABIATE**.

**ŪNĪLĀT'ĒRAL**, one-sided. See **SECUND**.

**ŪNĪLŎC'ŪLAR**, one-celled, as applied to anthers and ovaries; elocular.

**ŪNĪNTĒRRŪP'TĒD**, see **CONTINUOUS**.

**ŪNĪPĀROŪS**, bearing or producing but one stem or axis.

**ŪNĪP'ĀROŪS ĆYME**, a cyme with one main axis; monochasium. Compare **DICHASĪUM**.

**ŪNĪPĒT'ALOŪS**, having but one petal, as *Amorpha*. Compare **GAMOPETALOUS**.

**ŪNĪSĒP'TĀTE**, having a single septum.

**ŪNĪSĒ'RĪĀL**, having one row or whorl; uniseriate. Compare **ONE-RANKED**.

**ŪNĪSĒ'RĪĀTE**, arranged in a single line; uniserial.

**ŪNĪSĒX'ŪĀL**, applied to an individual or flower which has one kind of sexual organs only; diclinous.

**ŪNĪVĀL'VŪĀLAR**, dehiscing along one suture only, so that the pericarp has but one valve, as the pod of the common milkweed, *Asclepias Cornuti*.

**ŪNĪVĒR'SAL**, see **COMMON**.

**ŪNĪVĒR'SAL ĪN'VŌĻŪCRĒ**, see **COMMON INVOLUCRE**.

**ŪNĪVĒRSAL ŪM'BĒL**, see **COMPOUND UMBEL**.

**ŪNLĪN'ĪNG**, the separation of parts originally united. Formerly used for *Chorisis*, from the erroneous supposition that the additional organs in *chorisis* were always produced in this manner. See **CHORISIS**.

**ŪNSŪMMĒT'RĪCAL**, not symmetrical, which see.

**ŪR'ĆĒŌĻĀTE**, pitcher- or urn-shaped: tubular, and contracted at the orifice.

**ŪRĒ'DŌ-FRŪĪT**, a sorus or group of uredospores.

**ŪRĒ'DŌSPŌRE**, a form of unicellular spore or gonidium in the *Uredineæ* or rust-fungi, produced earlier in the season than the teleutospores, and destined for immediate germination.

**ŪRĒ'DŌ-STĀGE**, the early summer stage of the *Uredineæ*, during which only uredospores are produced.

**ŪRN**, the spore-capsule of mosses; also the base of a pyxidium.

**ŪRN-SHĀPED**, see **URCEOLATE**.

**ŪRTĪCĀ'ĆEOUS**, pertaining to nettles or the family *Urticaceæ*.

**Ū'TRICLE**, (1) a fruit having a small inflated membranous pericarp, as that of *Chenopodium*; (2) the bladder of various aquatic plants, as *Utricularia*; (3) one of the large hyaline cells in the leaves of *Sphagnum*.

**Ū'TRICLE, PRĪMŌR'DĪĀL**, see **PRIMORDIAL UTRICLE**.

**ŪTRĪC ŪĀLAR**, bladder-like or furnished with utricles.

**ŪTRĪC'ŪĻĀTE**, inflated like a bladder; utricular.

**ŪTRĪC'ŪĻĪFŌRM**, shaped like a bottle or bladder; about the same as *Urceolate*, but a less definite term.

**ŪTRĪC'ŪĻŌSE**, bearing utricles.

**ŪTRĪC'ŪĻŪS** (pl. *Ūtric'Ūlī*), see **UTRICLE**.

**VĀC'ŪŌLE**, a sap-cavity in the protoplasm of a cell.

**VĀĜĪNĀ**, see **SHEATH**.

**VĀĜĪNANT**, sheathing.

**VĀĜĪNĀTĒD**, sheathed; invaginated.

**VĀĜĪNĒRVŌSE'**, having the small veins (nerves) in no apparent order.

**VĀĜĪN'ŪĻĀ**, a small sheath; especially, the apex of the stem which surrounds the base of the seta in mosses; *vaginule*.

**VĀĜĪNŪLE**, see **VAGINULA**.

**VĀGUE**, in no definite order or direction; of no definite or

constant form. Compare AMORPHOUS.

**VĀIL**, see VEIL.

**VĀLLĒC'ŪLĀ** (pl. Vāllēc'ulā), a groove or furrow, as those between the ridges on the fruit of Umbelliferae. Compare SULCUS.

**VĀLLĒC'ŪLAR CĀNĀLS'**, large intercellular passages, alternating with the fibrovascular bundles in the stem of Equisetum. They are situated in the cortex, and lie between the ridges on the surface. Compare CARINAL CANAL.

**VĀLVĀTE**, said of the leaves of a flower in æstivation when they meet at their edges and do not overlap, as the sepals in the rose; valvular. The margin of valvate organs may be rolled or folded inward or outward.

**VĀLVE**, (1) one of the parts of a dehiscent pericarp; (2) the lid of an ascidium or pitcher; (3) one of the halves of a frustule in diatoms.

**VĀLV'ŪLAR**, see VALVATE.

**VĀ'RĪĀBLE**, said of a species or other group which embraces many individuals which depart more or less from the type of the group. The term is applied in a similar way to any organ or character which fails to exhibit uniformity.

**VĀRĪĀTION**, a transient variety, consisting of but one or a few individuals, less marked than a Sport, and usually but slightly differing from the type of the species or variety to which it belongs. It is subordinate in importance to a Form, and less frequently produced by some peculiar condition of the soil or climate.

**VĀR'ĪCŌSE**, appearing abnormally enlarged in places;—applied to hairs and other tubular filaments.

**VĀ'RĪEGĀTĒD**, applied to leaves, etc., which have two or more colors upon the surface, especially to such as are permanently marked with white or yellow. Compare BICOLOR and CHLOROSIS.

**VĀR'ĒTŸ**, a group subordinate to a species, founded on characters which in cultivated plants are often temporary, and which in the wild state are regarded as permanent, but which gradually merge into those of the main specific form. Compare SPECIES, RACE, SPORT, and VARIATION.

**VĀR'ĒTŸ-HŸBRĪD**, see CROSS.

**VĀR'NĪSH**, see BLASTOCOLLA.

**VĀR'NĪSHED**, see VERNICOSE.

**VĀ'SĀ PRŌ'PRIĀ**, a term applied by Mohl to the portion of the phloëm containing the sieve-tubes and other thin-walled tubular cells. Now seldom used.

**VĀS'CŪLAR**, pertaining to or containing vessels.

**VĀS CŪLAR BŪN'DLE**, see FIBROVASCULAR BUNDLE.

**VĀS'CŪLAR BŪN'DLE-SHĒATH**, a layer of cells between the phloëm and cortex, or surrounding a fibrovascular bundle, or an entire fibrovascular cylinder; phloëm-sheath.

**VĀS'CŪLAR ÇŸLĪN'DĒR**, see FIBROVASCULAR CYLINDER.

**VĀS CŪLAR SŸS'TĒM**, see FIBROVASCULAR SYSTEM.

**VĀS'CŪLAR TĪS'SŪE**, see VESSEL.

**VĀS'CŪLŪM**, a botanist's collecting-case. Formerly this term was applied to an ascidium or pitcher-shaped leaf.

**VĀSE'-SHĀPED**, shaped somewhat like a common flower-pot. (Rare.)

**VĀS'IFŌRM**, having the character of ducts or vessels.

**VĀS'IFŌRM WŌOD - ĆĖLLS**, see TRACHEIDS.

**VĀULT'ĖD**, overarched, as the upper lip of many ringent flowers; fornicate.

**VĖĖ'ĖTĀBLE**, (1) any plant; (2) in horticulture applied to plants cultivated for some edible part besides the fruit, and also to some, as the melon family, in which the part used is properly a fruit.

**VĖĖ'ĖTĀBLE ĀNĀT'ŌMŸ**, see STRUCTURAL BOTANY.

**VĖĖ'ĖTĀBLE NŌSŌL'ŌĖŸ**, the department of vegetable pathology which treats of the diagnosis or classification of the diseases of plants.

**VĖĖ'ĖTĀBLE PĀTHŌL'ŌĖŸ**, the science which treats of the diseases of plants. It includes the study of disease-producing parasites and of the means for preventing their injuries. It does not include Teratology.

**VĖĖ'ĖTĀBLE PHŸSĪŌL'ŌĖŸ**, see PHYSIOLOGICAL BOTANY.

**VĖĖ'ĖTĀBLE TĀXŌN'ŌMŸ**, the part of systematic botany which relates to the classification of plants.

**VĖĖ'ĖTĀBLE WĀX**, a wax-like substance upon many leaves and fruits, an important function of which is to protect the parts from excessive moisture. See BLOOM.

**VĖĖĖTĀ'TION**, (1) germination and growth; (2) plants in general.

**VĖĖ'ĖTĀTIVE ĀPŌĖ'ĀMŸ**, the apogamous production of growing shoots in place of

seeds or spores. See APOGAMY.

**VĖĖ'ĖTĀTIVE ĆĖLL**, a cell in a pollen-grain which does not develop into the pollen-tube. Compare GENERATIVE CELL.

**VĖĖ'ĖTĀTIVE NŪ'CLĖŪS**, any nucleus in a pollen-tube which takes no direct part in fertilization. Compare GENERATIVE NUCLEUS.

**VEIL**, (1) a membrane connecting the margin of the cap in mushrooms with the stalk; velum; (2) the calyptra in mosses.

**VEIN**, a small bundle of fibro-vascular tissue within a leaf. When large, and occupying a prominent ridge, it is called *rib*; when very small it is sometimes called *nerve*, especially in monocotyledons; but the term Nerve is now little used.

**VEIN'LET**, a small, secondary vein; veinule.

**VEIN'ULĖT**, a branch of a veinlet. (Rare.)

**VĖLĀ'MĖN**, an envelope of several layers of cells containing air, surrounding the aerial roots of orchids and Aroidæ.

**VĖ'LĀTE**, furnished with a veil; veiled.

**VĖ'LŪM**, the membranous indusium in Isoetes. Formerly applied to the veil of mushrooms.

**VĖ'LŪM PĀRTĪĀLĖ**, see MARGINAL VEIL.

**VĖ'LŪM ŪNĪVĖRSĀ'LĖ**, see VOLVA.

**VĖLŪ'TINOŪS**, covered with a close, silky coat of short, fine, erect hairs of even length; velvety.

**VĖL'VĖTŸ**, see VELUTINOUS.

**VĚNĀ'TION**, the manner in which the veins are arranged in a leaf.

**VĚNÔSE'**, containing numerous veins.

**VĚN'TĚR**, the expanded basal portion of an archegonium, in which the oosphere is formed.

**VĚN'TRAL**, pertaining to the face or front, being the side opposite to the dorsal. See DORSAL.

**VĚN'TRAL CĀNĀL' ĆĚLL**, a small cell below the entrance of the neck of an archegonium, cut off from the mother-cell of the oosphere.

**VĚN'TRAL SŪ'TŪRE**, a line of union between the margins of the carpel or carpels in an ovary. Compare DORSAL SUTURE.

**VĚN'TRĪCÔSE**, swelling out in a rounded manner.

**VĚN'TRĪC'ŪLÔSE**, slightly ventricose.

**VĚN'TRĪCŪM'BENT**, face downward upon the ground; prone.

**VĚN'ŪLÔSE**, abounding in veinlets.

**VĚRMĪC'ŪLAR**, worm-shaped.

**VĚRMĪC'ŪLĀTE**, vermicular, or bearing worm-like processes.

**VĚR'MĪFÔRM BÔD'Ÿ**, see SCOLICITE.

**VĚR'NAL**, pertaining to spring; appearing in spring.

**VĚRNĀ'TION**, the manner in which leaves are disposed in the bud; pefoliation. Sometimes improperly used for FOLIATION, the act or time of leafing.

**VĚR'NĪCÔSE**, appearing as though varnished, as the buds of many trees.

**VĚRRŪ'CĀ** (pl. *VĚrrŭ'cæ*), a wart-like elevation of any kind, in-

cluding the sessile apothecia of some lichens. (Obs.) See WART.

**VĚRRŪ'CĀFÔRM**, wart-like.

**VĚR'RUĆÔSE**, wart-like, or bearing wart-like prominences. Compare PAPILLATE and PUSTULATE.

**VĚRRŪ'CŪLÔSE**, slightly verrucose.

**VĚR'SĀTĪLE**, attached at one point, so as to swing freely to and fro, as the anthers of the lily.

**VĚR'SĪCÔLOR**, changeable in color, or appearing of different colors from different points of view.

**VĚR'SĪFÔRM**, varied or varying in form.

**VĚR'TĚX**, an upper extremity; summit. Compare APEX.

**VĚR'TĪCAL**, (1) perpendicular to the horizon; (2) perpendicular to the surface or axis of support; (3) in the direction of the axis of growth; lengthwise.

**VĚR'TĪCAL ĀN'TĤĚR**, see INNATE.

**VĚR'TĪCAL ĆHÔ'RĪSĪS**, see TRANSVERSE CHORISIS.

**VĚR'TĪCAL LĚAVĚS**, applied especially to erect leaves like those of Iris, which have no distinct or obvious dorsal and ventral surfaces.

**VĚR'TĪCALLŸ CÔMPRĚSSĚD'**, see DEPRESSED.

**VĚR'TĪCAL SŸS'TĚM**, see FIBROVASCULAR SYSTEM. Compare HORIZONTAL SYSTEM.

**VĚR'TĪĆĚL**, see VERTICIL.

**VĚR'TĪĆĪL**, see WHORL.

**VĚRTĪĆĪLLĀS'TĚR**, a pair of dense cymes in the axils of opposite leaves, forming an

apparent verticil, as in most Labiatae.

**VĚRTIČ'ILLĀTE**, arranged in a ring or whorl; whorled.

**VĚŠÍCLE**, a small bladder-like body or cavity.

**VĚŠÍČ'ŮLAR**, bearing or containing numerous vesicles; vesiculate; vesiculose.

**VĚŠÍČ'ŮLĀTE**, see VESICULAR.

**VĚŠÍČ'ŮLŌSE**, see VESICULAR.

**VĚŠPĚRTĚNE**, pertaining to or taking place early in the evening: applied especially to flowers which expand at that time of the day.

**VĚŠSĚL**, a cell, or row of confluent cells, having markings produced by thickenings in the cell-wall, forming dots, bands, rings, spirals, etc. Formerly only vessels having spiral markings were called vessels, in distinction especially from those having pitted walls, which were known as ducts, but the term Duct is now comparatively little used. The terms Duct and Vessel are partially equivalent, Duct being perhaps more often used for continuous vessels composed of more than one cell. See TRACHEA and TRACHEID.

**VĚŠTÍBŮLE**, a term applied by Duchartre to an opening or chamber above the stomata in certain plants, as *Cycas revoluta*, formed by the depression of the guard-cells and the outward growth of the adjoining epidermal cells. Compare ANTECHAMBER and STOMATIC CHAMBER.

**VĚŠTÍGE**, an abortive part which in some ancestral form was fully developed.

**VĚTĚRAN** (Forestry), a very old tree.

**VĚX'ĪL**, see VEXILLUM.

**VĚX'ILLĀRÝ ĚSTIVĀ'TION**, having a vexillum or other similar large petal which unfolds all the others in the bud. More properly "Cochlear Æstivation," except in Papilionaceae.

**VĚX'ILLĀTE**, having a vexillum.

**VĚXÍL'LŮM**, the large upper petal of a papilionaceous flower; standard; banner.

**VĚĀBLE**, capable of growing or manifesting life—said mainly of seeds.

**VĚBRÁTĚLE**, having a vibratory or back-and-forth motion.

**VĚBRŌGĚN**, a term applied by Penhallow to certain longitudinal bands of active tissue in the cortex of tendrils to which their movements of circumnutation are supposed to be chiefly due.

**VĚCĀ'RĪŮŠ**, performing the function, or occupying the place, of some other organ.

**VĚL'LĪ** (sing. *Vil'lūs*), velutinous hairs.

**VĚL'LĪFŌRM**, resembling villi.

**VĚLLŌSE'**, covered with rather thin, soft, straightish hairs, somewhat finer, softer, and thicker than in Pilose; villous. Sometimes used for Velutinous, which see.

**VĚL'LOŮŠ**, see VILLOSE.

**VĚL'LŮŠ**, sing., see VILLI.

**VĚMĚN**, a long, flexible shoot or branch, like the willow branches used for wickerwork. (Obs.)

**VĚM'ĪNAL**, pertaining to twigs.

**VĚMĪN'ĚŮŠ**, producing or resembling long, flexible twigs or branches.

**VĚNE**, any plant, or its stem, which is incapable of self-

support, and either grows upon the ground or supports itself upon other objects.

**VĪRĒS'ČENĀE**, having petals abnormally green in color, like leaves.

**VĪRĒS'ČENT**, greenish, or becoming green.

**VĪR'GĀTE**, wand-like; long, straight, and slender.

**VĪR'GŪLĀTE**, diminutive of Virgate; shaped like a little twig or rod.

**VĪRĪDĒS'ČENT**, greenish; virescent.

**VĪRŌSE'**, having a nauseous odor.

**VĪS'ČĪD**, sticky; adhesive; viscidous.

**VĪS'ČĪD DĪSK**, the retinaculum of orchids.

**VĪTĒL'LŪS**, the embryo-sac as it appears in the seed.

**VĪTĪC'ŌLOŪS**, growing upon the grape-vine, as certain parasitic fungi.

**VĪTĪC'ŪLĀ** (pl. *Vitīc'ulā*), a trailing stem, as that of the cucumber; a little vine; a tendril; a stolon; a sarment. (Rare.)

**VĪTĪC'ŪLŌSE**, bearing or resembling viticulæ.

**VĪT'RĒŌŪS**, transparent like glass. Compare *HYALINE*.

**VĪT'TĀ** (pl. *Vit'tæ*), one of the tubular oil-receptacles in the fruit of Umbelliferæ; oil-tube. They appear externally as ridges.

**VĪT'TĀTE**, bearing vittæ, or longitudinal stripes or ridges somewhat resembling the vittæ on the fruit of Umbelliferæ.

**VĪVĀ'ČIOŪS**, (1) living over winter, or from year to year; perennial; (2) full of life; difficult to kill.

**VĪVĪP'AROŪS**, producing bulbs or seeds which germinate while still attached to the parent-plant. The term is not applied to the production of ordinary offsets or suckers.

**VŌL'ŪBĪLE**, see *TWINING*.

**VŌL'ŪBLE**, see *TWINING*.

**VŌLŪNTEER'**. A volunteer crop or plant is one which has come from self-sown seed within the boundaries of the field or farm and has grown without care or cultivation. The term implies that the growth is of some value.

**VŌLŪTE'**, rolled up in any direction.

**VŌL'VĀ**, a covering, membranous, gelatinous, or otherwise, which extends from the margin of the cap to the base of the stipe in mushrooms, and which is ruptured by growth in those species which have an elongated stem; wrapper; *velum universale*.

**WĀLL'ĪNG Ō'VĒR**, a term employed in forestry for the growth of a callus over a cut or injured surface.

**WĀRT**, a sessile gland, hard excrescence, or other protuberance resembling a wart upon animals. Compare *PŪSTULE*.

**WĀRT'Ÿ**, applied by gardeners to a head of cauliflower when it becomes loose and covered with small prominences preparatory to throwing up the seed-stalks; frothy.

**WĀ'TĒR-CŌRE**, an abnormal condition of a part or the whole of the flesh of the apple, occasionally seen, in which the cells are unusually firm, do not lose their fluid contents upon ripening, and appear as though water-soaked.

**WATER-GLAND**, a group of cells beneath the water-pores of certain plants, as in *Saxifraga*, which serve to facilitate or regulate the transpiration of water. The cells composing the gland are rich in protoplasm but destitute of chlorophyll.

**WATER-PÖRE**, an aperture in the epidermis directly over the extremity of a vein in the leaves of certain plants, as *Caladium esculentum*. It is a stoma whose guard-cells have lost their function and become immovable, and its probable function is to facilitate the transpiration of water.

**WATER-SPROUT** (Hort.), an unusually long shoot or limb of one year's growth, especially upon the body of a tree where older limbs have been removed.

**WATER-STÖMÄ**, see WATER-PÖRE.

**WATER-STÖR'ING TIS'SÛE**, a form of water-tissue adapted for the storage of water for the supply of surrounding cells in times of drought, as in many plants of dry climates.

**WÄVED**, said of a margin when strongly undulate, but less strongly than Ruffled.

**WÄV'ÿ**, alternately concave and convex upon the surface or margin. See SINUATE, REPAND, UNDULATE, and CRISP.

**WEATH'ER-PROUD**, a gardener's term, employed in England, denoting that plants are larger or more thrifty than common for the season of the year.

**WEDGE'-SHAPED**, see CUNEATE.

**WEED**, a plant which grows where it is not wanted and which becomes troublesome. Applied chiefly to wild plants.

**WEEP'ING**, (1) having the smaller branches so lax that many of them hang directly downward, as those of several species of willow; (2) the copious exudation of sap from water-pores or from an injured surface, in the latter case more often called Bleeding.

**WEFT**, a collection of interlacing hyphæ or other filaments.

**WELT**, a broad, raised stripe or ridge upon the surface of a fruit, as is occasionally seen in the orange and lemon.

**WELT'ED**, flaccid; drooping. (Obs.)

**WHEEL'-SHAPED**, see ROTATE.

**WHIP'-SHAPED**, see FLAGELLIFORM.

**WHIRL**, see WHORL.

**WHÖRL**, a set of organs arranged in a circle around a stem or axis; verticil.

**WHÖRLED**, see VERTICILLATE.

**WILD**, (1) growing spontaneously without care or cultivation, either native or introduced; feral; (2) in a natural condition, not improved by cultivation or artificial selection. When used without qualification Wild means strictly native.

**WILD'ER'ING**, see WILDING.

**WILD'ING**, (1) a cultivated plant that has "run wild" or reproduced itself spontaneously; wildering; (2) any wild plant; wildling. In both senses applied to fruit-trees. A fruit-tree, however, which has sprung up spontaneously within cultivated ground is not usually called a Wilding, but merely a "chance seedling."

**WING**, (1) any thin or membranous appendage, especially a flattened appendage to a seed

which enables it to be more readily conveyed by the wind, as in the ash and maple; (2) one of the side petals of a papilionaceous flower, as of the pea or bean; ala.

**WINGED**, bearing a membranous expansion or wing; alate.

**WĪN'TĒR AN'NŪAL**, a plant which germinates in the fall, lives over winter, and produces seed and dies the following season.

**WĪN'TĒR SPŌRE**, see **RESTING-SPORE**.

**WĪTH'ĒRĪNG**, see **MARCESCENT**.

**WŌOD**, all that portion of the stem in exogens within the bark or cambium layer, except the pith and medullary rays. It consists of the xylem portions of the united fibrovascular bundles. The term is also extended in popular use to all parts of similar texture in plants. See **XYLEM**.

**WŌOD-FĪBRE**, an elongated wood-cell with thick wall and narrow cavity. See **BAST-FIBRE**.

**WŌOL**, long, dense, curled hairs.

**WŌOL'LŶ**, see **LANATE**.

**WŌR'ŌNĪN'S HŶPHĀ**, a coiled hypha in various Ascomycetes, believed to be morphologically an archicarp, but in which fertilization is either wanting or unknown.

**WRĀP'PĒR**, see **VOLVA**.

**XĀN'THĪC FLOW'ĒRS**, those which have yellow for the typical color, including all colors except those containing blue. Compare **CYANIC FLOWERS**.

**XĀN'THŌPHŶLL**, see **PHYLLOX-ANTHIN**.

**XĒNŌG'ĀMŶ**, see **CROSS-FERTILIZATION**.

**XĒRŌPH'ĪLOŪS**, growing in dry climates. (Rare.)

**XĪPH'ĪŌID** (rare in botany), see **ENSIFORM**.

**XĪPHŌPH'ŶLLOŪS**, having ensiform leaves. (Rare.)

**XŶ'LĒM**, the portion of a differentiated fibrovascular bundle which contains the larger continuous air-containing vessels, and the walls of whose cells are often thickened and lignified; wood; hadrome. The xylem is separated from another part called **Phloēm** by the cambium, if there is any, and it usually occupies the side of the bundle toward the centre of the stem. Compare **PHLOĒM**.

**XŶ'LĒM-PLĀTE**, see **XYLEM-RAY**.

**XŶ'LĒM-RĀY**, a radial plate of xylem between two medullary rays; xylem-plate. Compare **PHLOĒM-RAY**.

**XŶLŌCĀR'POŪS**, having hard, woody fruit. (Obs.)

**XŶLŌ'DĪŪM** (obs.), see **ACHENIUM**.

**XŶLŌ'MĀ**, a sclerotoid body which produces spores internally: found in *Polystigma* and some other Ascomycetes.

**ZŌĀD'ŪLĀ** (pl. *Zōād'ūlā*) (obs.), see **ZŌŌSPORE**.

**ZŌDĪŌPH'ĪLOŪS**, pollinated by the agency of animals, including, for example, *Protozophilous* and *Entomophilous*. It is the converse of *Anthophilous*, said of the insects or other animals which convey the pollen. Compare **ANEMOPHILOUS** and **HYDROPHILOUS**.

**ZŌN'ĀTE**, marked with circular, colored bands; zoned. Applied to the tetraspores of Florideæ when in a single row, in distinction from a cruciate or tripartite arrangement.

**ZŌNE**, a circular band or stripe.

**ZŌNED**, see ZONATE.

**ZŌ'ŌGĀMĒTE**, see PLANO-GAMETE.

**ZŌŌGLĒ'Ā** (pl. Zŏŏglæ'æ), a gelatinous colony of bacteria.

**ZŌŌGŌNĪD'ĪŪM** (pl. Zŏŏgŏnĭd'ĭā), a motile gonidium, usually called zoöspore. Restricted by some to a zoöspore which grows into a plant directly, without conjugation. See Zoöspore.

**ZŌ'ŌSPĒRM**, see Zoöspore.

**ZŌŌSPŌRĀN'ĠĪŪM**, a sporangium enclosing zoöspores.

**ZŌ'ŌSPŌRE**, a spore or gonidium having the power of independent movement, usually by means of one or more vibratile cilia; swarm-spore. See Zoögonidium.

**ZŌŌTHĒCĀ** (obs.), see Zoösporangium.

**ZŸGŌGŌ'NĪŪM**, the female conjugating cell in Conjugateæ, together with the accessory cells, if any. Compare Asconium and Carpoonium.

**ZŸGŌMŌR PHĪC**, applied to flowers which are monosymmetrical, as those of the pea and bean. Compare Actinomorphic. Sachs extends the term to such irregular flowers as are capable of bisection into similar halves in two directions, but in which the halves produced by the two bisections are of different shape, as in Dicotyledons.

**ZŸGŌMŌR PHŌŪS**, see Zygomorphic.

**ZŸGŌ SĪS**, see Conjugation.

**ZŸG'ŌSPĒRM**, see Zygosporium.

**ZŸG'ŌSPĒRE**, the female conjugating cell in such zygomorphs as have a distinction in sex. Compare Oöspere.

**ZŸG'ŌSPŌRE**, a spore resulting from conjugation.

**ZŸ'GŌTE**, a general term for the product of the union of two gametes.

**ZŸGŌZŌ'ŌSPŌRE**, a motile zygosporium.

**ZŸM'ĀSE**, a ferment secreted by certain bacteria; enzyme.

**ZŸMŌ SĪS**, (1) fermentation of any kind; (2) an infectious or contagious disease.

**ZŸMŌT'ĪC**, (1) pertaining to fermentation, or caused by organisms capable of producing fermentation; (2) pertaining to an infectious or contagious disease.

## THE AMERICAN SCIENCE SERIES.

---

THE principal objects of the series are to supply the lack—in some subjects very great—of authoritative books whose principles are, so far as practicable, illustrated by familiar American facts, and also to supply the other lack that the advance of Science perennially creates, of text-books which at least do not contradict the latest generalizations. The scheme systematically outlines the field of Science, as the term is usually employed with reference to general education, and includes ADVANCED COURSES for maturer college students, BRIEFER COURSES for beginners in school or college, and ELEMENTARY COURSES for the youngest classes. The Briefer Courses are not mere abridgments of the larger works, but, with perhaps a single exception, are much less technical in style and more elementary in method. While somewhat narrower in range of topics, they give equal emphasis to controlling principles. The following books in this series are already published:

**THE HUMAN BODY.** By H. NEWELL MARTIN, Professor in the Johns Hopkins University.

**Advanced Course.** 8vo. 655 pp.

Designed to impart the kind and amount of knowledge every educated person should possess of the structure and activities and the conditions of healthy working of the human body. While intelligible to the general reader, it is accurate and sufficiently minute in details to meet the requirements of students who are not making human anatomy and physiology subjects of special advanced study. *The regular editions of the book contain an appendix on Reproduction and Development. Copies without this will be sent when specially ordered.*

From the CHICAGO TRIBUNE: "The reader who follows him through to the end of the book will be better informed on the subject of modern physiology in its general features than most of the medical practitioners who rest on the knowledge gained in comparatively antiquated text-books, and will, if possessed of average good judgment and powers of discrimination, not be in any way confused by statements of dubious questions or conflicting views."

**THE HUMAN BODY.**—*Continued.***Briefer Course.** 12mo. 364 pp.

Aims to make the study of this branch of Natural Science a source of discipline to the observing and reasoning faculties, and not merely to present a set of facts, useful to know, which the pupil is to learn by heart, like the multiplication-table. With this in view, the author attempts to exhibit, so far as is practicable in an elementary treatise, the ascertained facts of Physiology as illustrations of, or deductions from, the two cardinal principles by which it, as a department of modern science, is controlled,—namely, the doctrine of the “Conservation of Energy” and that of the “Physiological Division of Labor.” To the same end he also gives simple, practical directions to assist the teacher in demonstrating to the class the fundamental facts of the science. *The book includes a chapter on the action upon the body of stimulants and narcotics.*

From HENRY SEWALL, *Professor of Physiology, University of Michigan*: “The number of poor books meant to serve the purpose of text-books of physiology for schools is so great that it is well to define clearly the needs of such a work: 1. That it shall contain accurate statements of fact. 2. That its facts shall not be too numerous, but chosen so that the important truths are recognized in their true relations. 3. That the language shall be so lucid as to give no excuse for misunderstanding. 4. That the value of the study as a discipline to the reasoning faculties shall be continually kept in view. I know of no elementary text-book which is the superior, if the equal, of Prof. Martin’s, as judged by these conditions.”

**Elementary Course.** 12mo. 261 pp.

A very earnest attempt to present the subject so that children may easily understand it, and, whenever possible, to start with familiar facts and gradually to lead up to less obvious ones. *The action on the body of stimulants and narcotics is fully treated.*

From W. S. PERRY, *Superintendent of Schools, Ann Arbor, Mich.*: “I find in it the same accuracy of statement and scholarly strength that characterize both the larger editions. The large relative space given to hygiene is fully in accord with the latest educational opinion and practice; while the amount of anatomy and physiology comprised in the compact treatment of these divisions is quite enough for the most practical knowledge of the subject. The handling of alcohol and narcotics is, in my opinion, especially good. The most admirable feature of the book is its fine adaptation to the capacity of younger pupils. The diction is simple and pure, the style clear and direct, and the manner of presentation bright and attractive.”

**ASTRONOMY.** By SIMON NEWCOMB, Professor in the Johns Hopkins University, and EDWARD S. HOLDEN, Director of the Lick Observatory.

**Advanced Course.** 8vo. 512 pp.

To facilitate its use by students of different grades, the subject-matter is divided into two classes, distinguished by the size of the type. The portions in large type form a complete course for the use of those who desire only such a general knowledge of the subject as can be acquired without the application of advanced mathematics. The portions in small type comprise additions for the use of those students who either desire a more detailed and precise knowledge of the subject, or who intend to make astronomy a special study.

From C. A. YOUNG, *Professor in Princeton College*: "I conclude that it is decidedly superior to anything else in the market on the same subject and designed for the same purpose."

**Briefer Course.** 12mo. 352 pp.

Aims to furnish a tolerably complete outline of the astronomy of to-day, in as elementary a shape as will yield satisfactory returns for the learner's time and labor. It has been abridged from the larger work, not by compressing the same matter into less space, but by omitting the details of practical astronomy, thus giving to the descriptive portions a greater relative prominence.

From THE CRITIC: "The book is in refreshing contrast to the productions of the professional schoolbook-makers, who, having only a superficial knowledge of the matter in hand, gather their material, without sense or discrimination, from all sorts of authorities, and present as the result an *indigesta moles*, a mass of crudities, not unmixed with errors. The student of this book may feel secure as to the correctness of whatever he finds in it. Facts appear as facts, and theories and speculations stand for what they are, and are worth."

From W. B. GRAVES, *Master Scientific Department of Phillips Academy*: "I have used the Briefer Course of Astronomy during the past year. It is up to the times, the points are put in a way to interest the student, and the size of the book makes it easy to go over the subject in the time allotted by our schedule."

From HENRY LEFAVOUR, *late Teacher of Astronomy, Williston Seminary*: "The impression which I formed upon first examination, that it was in very many respects the best elementary text-book on the subject, has been confirmed by my experience with it in the classroom."

**ZOOLOGY.** By A. S. PACKARD, Professor in Brown University.

**Advanced Course.** 8vo. 719 pp.

Designed to be used either in the recitation-room or in the laboratory. It will serve as a guide to the student who, with a desire to get at first-hand a general knowledge of the structure of leading types of life, examines living animals, watches their movements and habits, and finally dissects them. He is presented first with the facts, and led to a thorough knowledge of a few typical forms, then taught to compare these with others, and finally led to the principles or inductions growing out of the facts.

From A. E. VERRILL, *Professor of Zoology in Yale College*: "The general treatment of the subject is good, and the descriptions of structure and the definitions of groups are, for the most part, clear, concise, and not so much overburdened by technical terms as in several other manuals of structural zoology now in use."

**Briefer Course.** 12mo. 334 pp.

The distinctive characteristic of this book is its use of the *object method*. The author would have the pupils first examine and roughly dissect a fish, in order to attain some notion of vertebrate structure as a basis of comparison. Beginning then with the lowest forms, he leads the pupil through the whole animal kingdom until man is reached. As each of its great divisions comes under observation, he gives detailed instructions for dissecting some one animal as a type of the class, and bases the study of other forms on the knowledge thus obtained.

From HERBERT OSBORN, *Professor of Zoology, Iowa Agricultural College*: "I can gladly recommend it to any one desiring a work of such character. While I strongly insist that students should study animals from the animals themselves,—a point strongly urged by Prof. Packard in his preface,—I also recognize the necessity of a reliable text-book as a guide. As such a guide, and covering the ground it does, I know of nothing better than Packard's."

**First Lessons in Zoology.** 12mo. 290 pp.

In method this book differs considerably from those mentioned above. Since it is meant for young beginners, it describes but few types, mostly those of the higher orders, and discusses their relations to one another and to their surroundings. The aim, however, is the same with that of the others; namely, to make clear the general principles of the science, rather than to fill the pupil's mind with a mass of what may appear to him unrelated facts.

**PSYCHOLOGY—Advanced Course.** BY WILLIAM JAMES, Professor in Harvard University. 2 vols. 8vo., 689, 704 pp.

From Prof. E. H. GRIFFIN, *John Hopkins University*: "An important contribution to psychological science, discussing its present aspects and problems with admirable breadth, insight, and independence."

From Prof. JOHN DEWEY, *University of Michigan*: "A remarkable union of wide learning, originality of treatment, and, above all, of never-failing suggestions. To me the best treatment of the whole matter of advanced psychology in existence. It does more to put psychology in scientific position both as to the statement of established results and a stimulating to further problems and their treatment, than any other book of which I know."

From Hon. W. T. HARRIS, *National Bureau of Education*: "I have never seen before a work that brings together so fully all of the labors, experimental and analytic, of the school of physiological psychologists."

**BOTANY.** By CHARLES E. BESSEY, Professor in the University of Nebraska.

**Advanced Course.** 8vo. 611 pp.

Aims to lead the student to obtain at first-hand his knowledge of the anatomy and physiology of plants. Accordingly, the presentation of matter is such as to fit the book for constant use in the laboratory, the text supplying the outline sketch which the student is to fill in by the aid of scalpel and microscope.

From J. C. ARTHUR, Editor of *The Botanical Gazette*: "The first botanical text-book issued in America which treats the most important departments of the science with anything like due consideration. This is especially true in reference to the physiology and histology of plants, and also to special morphology. Structural Botany and classification have up to the present time monopolized the field, greatly retarding the diffusion of a more complete knowledge of the science."

**Essentials of Botany.** 12mo. 292 pp.

A guide to beginners. Its principles are, that the true aim of botanical study is not so much to seek the family and proper names of specimens as to ascertain the laws of plant structure and plant life; that this can be done only by examining and dissecting the plants themselves; and that it is best to confine the attention to a few leading types, and to take up first the simpler and more easily understood forms, and afterwards those whose structure and functions are more complex.

From J. T. ROTHROCK, *Professor in the University of Pennsylvania*: "There is nothing superficial in it, nothing needless introduced, nothing essential left out. The language is lucid; and, as the crowning merit of the book, the author has introduced throughout the volume 'Practical Studies,' which direct the student in his effort to see for himself all that the text-book teaches."

**CHEMISTRY.** By IRA REMSEN, Professor in the Johns Hopkins University.

**Advanced Course.** 8vo.

The general plan of this work will be the same with that of the Briefer Course, already published. But the part in which the members of the different families are treated will be considerably enlarged. Some attention will be given to the lines of investigation regarding chemical affinity, dissociation, speed of chemical action, mass action, chemical equilibrium, thermochemistry, etc. The periodic law, and the numerous relations which have been traced between the chemical and physical properties of the elements and their positions in the periodic system will be specially emphasized. Reference will also be made to the subject of the chemical constitution of compounds, and the methods used in determining constitution.

**Introduction to the Study of Chemistry.** 12mo. 389 pp.

The one comprehensive truth which the author aims to make clear to the student is the essential nature of chemical action. With this in view, he devotes the first 208 pages of the book to a carefully selected and arranged series of simple experiments, in which are gradually developed the main principles of the subject. His method is purely inductive; and, wherever experience has shown it to be practicable, the truths are drawn out by pointed questions, rather than fully stated. Next, when the student is in a position to appreciate it, comes a simple account of the theory of the science. The last 150 pages of the book are given to a survey, fully illustrated by experiments, of the leading families of *inorganic* compounds.

From ARTHUR W. WRIGHT, *Professor in Yale College*:—The student is not merely made acquainted with the phenomena of chemistry, but is constantly led to reason upon them, to draw conclusions from them, and to study their significance with reference to the processes of chemical action—a course which makes the book in a high degree disciplinary as well as instructive.

From THOS. C. VAN NUYS, *Professor of Chemistry in the Indiana University*:—It seems to me that Remsen's "Introduction to the Study of Chemistry" meets every requirement as a text or class book.

From C. LES MEES, *Professor of Chemistry in the Ohio University*:—I unhesitatingly recommend it as the best work as yet published for the use of beginners in the study. Having used it, I feel justified in saying this much.

**CHEMISTRY**—*Continued.*

**Elements of Chemistry.** 12mo. 272 pp.

Utilizes the facts of every-day experience to show what chemistry is and how things are studied chemically. The language is untechnical, and the subject is fully illustrated by simple experiments, in which the pupil is led by questions to make his own inferences. The author has written under the belief that "a rational course in chemistry, whether for younger or older pupils, is something more than a lot of statements of facts of more or less importance; a lot of experiments of more or less beauty; or a lot of rules devised for the purpose of enabling the pupil to tell what things are made of. If the course does not to some extent help the pupil to think as well as to see it does not deserve to be called rational."

CHASE PALMER, *Professor in the State Normal School, Salem, Mass.*:—It is the best introduction to chemistry that I know, and I intend to put it into the hands of my pupils next Fall.

A. D. GRAY, *Instructor in Springfield (Mass.) High School*:—Neat, attractive, clear, and accurate, it leaves little to be desired or sought for by one who would find the best book for an elementary course in our High Schools and Academies.

**GENERAL BIOLOGY.** By WILLIAM T. SEDGWICK, Professor in the Mass. Institute of Technology, and EDMUND B. WILSON, Professor in Bryn Mawr College. *Part I.* 8vo. 193 pp.

This work is intended for college and university students as an introduction to the theoretical and practical study of biology. It is not zoology, botany, or physiology, and is intended not as a substitute, but as a foundation, for these more special studies. In accordance with the present obvious tendency of the best elementary biological teaching, it discusses broadly some of the leading principles of the science on the substantial basis of a thorough examination of a limited number of typical forms, including both plants and animals. Part First, now published, is a general introduction to the subject illustrated by the study of a few types. Part Second will contain a detailed survey of various plants and animals.

W. G. FARLOW, *Professor in Harvard University, Cambridge, Mass.*:—An introduction is always difficult to write, and I know no work in which the general relations of plants and animals and the cell-structure have been so well stated in a condensed form.

**POLITICAL ECONOMY.** By FRANCIS A. WALKER, President of the Massachusetts Institute of Technology.

**Advanced Course.** 8vo. 537 pp.

The peculiar merit of this book is its *reality*. The reader is brought to see the application of the laws of political economy to real facts. He learns the extent to which those laws hold good, and the manner in which they are applied. The subject is divided, as usual, into the three great branches of production, exchange, and distribution. An interesting and suggestive "book" on consumption is added, which serves to bring in conveniently the principles of population. The last part of the volume is given to the consideration of various practical applications of economic principles.

From RICHMOND MAYO SMITH, *Professor in Columbia College, N. Y.*:—In my opinion it is the best text-book of political economy that we as yet possess.

From WOODROW WILSON, *Professor in Princeton University, N. J.*:—It serves better than any other book I know of as an introduction to the most modern point of view as to economical questions.

**Briefer Course.** 12mo. 415 pp.

The demand for a briefer manual by the same author for the use of schools in which only a short time can be given to the subject has led to the publication of the present volume. The work of abridgment has been effected mainly through excision, although some structural changes have been made, notably in the parts relating to distribution and consumption.

From ALEXANDER JOHNSTON, *late Professor in Princeton University, N. J.*:—Using the "Briefer Course" as a text-book, suited to any capacity, I am able at the same time to recommend the "Advanced Course" to those who are better able to use it as a book of reference, or more inclined to carry their work further.

**Elementary Course.** 12mo. 323 pp.

What has been attempted is a clear arrangement of topics; a simple, direct, and forcible presentation of the questions raised; the avoidance, as far as possible, of certain metaphysical distinctions which the author has found perplexing; a frequent repetition of cardinal doctrines, and especially a liberal use of concrete illustrations, drawn from facts of common experience or observation.

HENRY HOLT & CO., PUBLISHERS, N. Y.







APR 76



N. MANCHESTER,  
INDIANA

